



Smart Computing[®]

& CONSUMER ELECTRONICS

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In Plain English

November
2008
Vol. 19 Iss. 11
\$5.99 U.S.
\$7.99 Canada

Reinstall Windows

*Breathe New Life
Into Your PC*

Windows Vista
Media Center p. 28



DIY Project
Move Programs & Settings
To A New PC p. 35



What To Do When...
Your PC Doesn't Have
A Windows Disc p. 78

Troubleshooting
Fix Problems With
Microsoft Access p. 80



Head-To-Head:
Internet Browsers p. 18



How To Install...
Applications p. 83



All Eyes On Blu-ray
The Next Format p. 30



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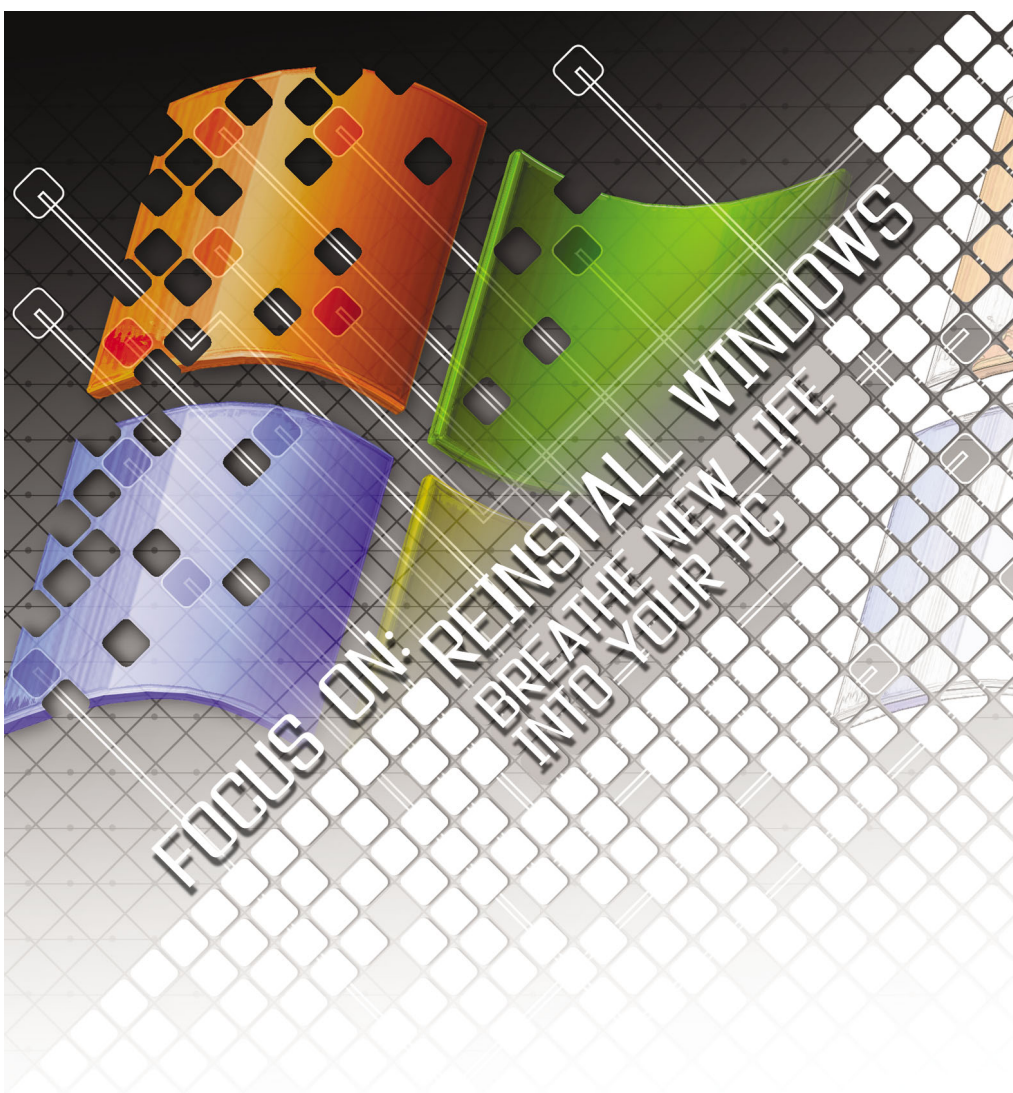


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46 Installing New Windows

When To Reinstall Your OS

49 When In Doubt, Back Up

Back It Up Before You Wipe It Clean

52 How To Reinstall Windows

Using Your PC's Recovery Tools

55 How To Reinstall Windows

Using Your Windows Vista Disc

59 How To Reinstall Windows

Using Your Windows XP Disc

63 Save Time With Slipstreaming

Update Your Windows XP Installation Disc

News & Notes

7 Tech News & Notes

12 News From The Help Desk: Our Most Common Tech Calls

We tell you the most common problems we're hearing about each month and provide straightforward solutions for each one.

Reviews

14 Tech Diaries

Our *Smart Computing* columnists spent some quality time with computer and computer-related hardware and software to get beyond the benchmark scores, statistics, and marketing hype. Find out what they liked and disliked about their choices.

14 Marty Sems: MyLife-MyArt.com

15 Tara Simmons:
Canon Selphy, Polaroid PoGo

Selphy CP760



16 Blaine Flamig:
Orbitsound T3, Speakal iPig

17 Jennifer Johnson: Canon EOS 50D

18 Head-To-Head: Internet Browsers

We review the latest browsers from Apple, Maxthon, Microsoft, Mozilla, and Opera.

22 Software Reviews

22 Broad Protection
F-Secure Internet Security 2009

23 Mix Your Own Music
Ringtone Media Studio 3

23 Use Less Juice
LocalCooling 2

Windows Central

24 Windows News, Views & Tips

Microsoft's Touchscreen Computer

26 Windows XP: Security Center

Protect Your PC From Online Threats

28 Windows Vista: Media Center

Entertainment At Your Fingertips



Computers & Electronics

30 Blu-ray

The Next Format



34 Readers' Tips

Our readers win very cool (OK, moderately cool) *Smart Computing* T-shirts by sharing great ways to solve problems and accomplish PC-related tasks.

35 DIY Project: Move Programs & Settings To A New PC

38 A Slice Of Apple: Portable Scanning For Macs

Smart Computing columnist—and Mac guru—Seth Colaner provides tips, tricks, and commentary for the Mac fanatics among us.

Plugged In

39 Web Tips

40 Find It Online

42 Financial Fitness

Stay On Top Of Your Finances With MSN Money

44 Mr. Modem's Desktop:

Count Your Blessings

In which Mr. Modem, author of several books—none of which has won the Pulitzer Prize—and co-host of the weekly “Gutsy Geeks” radio show, gives thanks for useful and fun technologies.



Tidbits

76 Notebooks For Everyone

94 Ovation

Nuance Dragon NaturallySpeaking 10 Preferred

LG Dare VX9700

Corsair Flash Voyager GT

LG GBW-H20L



LG's Dare

Tech Support

78 What To Do When Your PC Doesn't Have A Windows Disc

You picked up a gently used PC at the garage sale this week, and you'd like to put a clean copy of Windows on it. We'll give you your installation options.

80 How To Fix Common Problems With Microsoft Access 2007

83 How To Install Applications

86 Examining Errors

88 Fast Fixes

89 Q&A

You have questions. We have answers. The *Smart Computing* staff responds to your queries.

91 FAQs

Answers to users' most common questions about PC performance.

92 Action Editor

Can't seem to get a response from a vendor or manufacturer? If you need help, we're here for you.

93 Tales From The Trenches: Checking In

Real-world tech support advice from PC guru Gregory Anderson. This month, he puts Outlook's spell checker to work.

Quick Studies

67 Online

Organize Your Notes & Your Memory With Evernote

68 Paint Shop Pro Photo X2

Introducing New Features & A New Interface

69 PowerPoint 2007

Dates, Page Numbers & Other Housekeeping

70 Browsers

Browse The Web In Full-Screen Mode

71 Excel 2007

Understand Error Messages

72 Word 2007

Work With Bulleted & Numbered Lists: Part I

73 Quick Tips

November Web-Only Articles

Quick Studies

Email

Importing Your Address Book Into Thunderbird

Security

Understanding Managed Security For Small Business

Personal Finance

Create Multiple Accounts & Data Files

Consumer Electronics

We tell you what you really need to know about various types of consumer electronics products. This month, we cover:

D-SLR Cameras

Satellite Radio

Players

Smartphones



Editor's note

It's not often that we get to press the reset button and watch something return to a like-new state. Life certainly doesn't have a reset button, and neither do most of our tools and toys, with the notable exception of software and digital data.

Take photo-editing software, for example. If you accidentally make a picture too bright, you can revert to the original copy of the picture with a click of the mouse. And if your photo-editing software starts behaving oddly, you can swap the program with a fresh new copy in a matter of minutes (assuming, of course, that you can remember where you put the installation CD).

The same is (almost) true for your OS (operating system), which is, after all, software. But, whereas you can reset many programs in five or 10 minutes, you'll spend much more time (and effort) reverting Windows to its original state. You'll need to answer prompts and you might even find yourself configuring the computer's BIOS (Basic Input/Output System), a special operating system that many computer users never see.

Although the installation process improves with each new version of Windows, you'll probably find yourself saying "What do I do now?" a time or two along the way. This month, we'll tell you what to expect and give you the step-by-step instructions you'll need to guide Windows through a smooth installation, whether you have an original Windows disc or you're relying on the PC manufacturer's custom reinstallation files.

Joshua B. Gulick

Joshua B. Gulick



Product

Coverage Inquiries

products@smartcomputing.com
(800) 247-4880
131 West Grand Drive
Lincoln, NE 68521

Customer Service

(For questions about your subscription or to place an order or change an address.)

customer-service@smartcomputing.com
(800) 733-3809
FAX: (402) 479-2193

Smart Computing

P.O. Box 85380
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DESKTOPS & LAPTOPS

You've Come A Long Way, Baby

When building a new PC, consumers are inevitably intently focused on high-profile components such as the processor and graphics card. Yet even if the best internal components are chosen, they won't add up to much if thrown together in a case that's barely fit for storing a loaf of bread. Today's power-hungry components give off more heat than ever, in turn creating a demand for PC cases that can keep everything cool.

People who build their own PCs often have a tendency to recycle cases over several generations of internal components. This practice might have proven effective in the 1990s—when the heat quotient was far lower—but today, a new case might last through two component upgrades (or three at best). Beyond recent performance-related improvements, cases have also taken major strides in style, enough so that it's now simple to match a case to your exacting tastes.

Back in the day, cases required a screwdriver to remove the side panels, but most cases today feature hinges that allow the panels to simply swing out and off. Better yet, no longer do you have to lay the case on its side to install the motherboard. Instead, certain cases let you drop that far panel to a horizontal position to install the motherboard and components with ease.

Other innovations have similarly dispensed with the need for tools other than your hands. Sigma's Unicorn case (about \$100; www.sigmaproduct.com) features adjustable sliders that hold graphics

Today's PC cases, such as the Kandalf series from Thermaltake, not only incorporate futuristic styling, but they also include a wide range of convenience and cooling features.



cards in place without the need to use screws (how many times have you dropped those tiny screws in a case?). Other cases feature tool-less hard drive brackets, tool-less optical drive mounting devices, tool-less expansion card brackets, and similar contraptions.

Convenience aside, today's newer cases truly trump cases of years past when it comes to cooling. Whereas older cases occasionally featured one or two case fans, new cases squeeze in fans almost everywhere to accommodate high-performance,

high-heat components. These cases also work to limit noise created by that airflow, but you'll still have the option of using only the fans you want to use.

If you're in the market for a case, take a look at the Antec Sonata III 500 (\$149.95; www.antec.com); Thermaltake Tsunami (\$109.99; www.thermaltakeusa.com); Cooler Master Centurion 541 (\$49.99; www.coolermaster.com); Lian Li PC-60USB B2 (\$119.99; www.lian-li.com); and Apevia X-Navigator (\$169.99; www.apvidia.com). ■

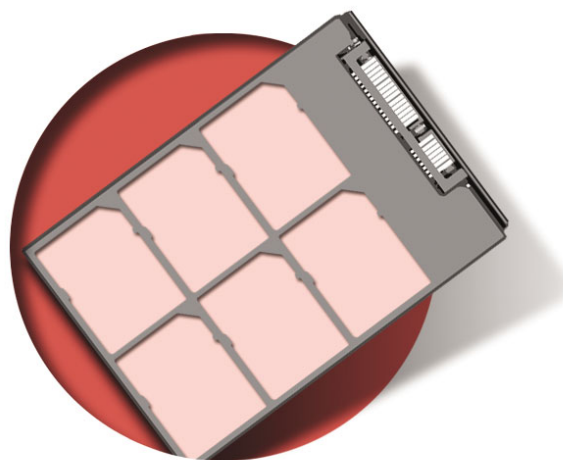
STORAGE

Build Your Own SSD

The newest kid on the storage block is the SSD (solid-state drive), but this kid doesn't come cheap. Although internal SSDs are fast and quiet, they offer only a fraction of the storage for the same price you'll pay for a traditional hard drive.

Meanwhile, other flash memory types, such as Secure Digital cards inserted into cameras, smartphones, and other devices, continue to drop drastically in price. Wouldn't it be great if you could tie together a bunch of those cards and create a drive? An overseas company already thought of this idea—the PhotoFast CR-9000 lets you build your own internal SSD.

The CR-9000 allows up to six SDHC (Secure Digital High-Capacity) cards to be inserted into its chassis, which can then be inserted in a computer (and the 2.5-inch form factor will allow it to fit into most laptops). Internal SSDs with 32GB of capacity cost upward of \$350, but if you stuff the CR-9000 with 32GB of SDHC cards, you'll pay around \$225 for everything. At press time, the CR-9000 wasn't available for retail sale in the United States, but several online shops will ship it for you, or you can grab one in an eBay auction. ■



DISPLAYS

Refreshing Innovation Hits LCDs

As most consumers make the switch from CRTs (cathode-ray tubes) to LCDs, refresh rates have become an afterthought. While CRTs often support multiple refresh rates—and high ones, at that—many LCD monitors are fixed at 60Hz (hertz), or they might offer the choice between 60Hz and 75Hz.

Refresh rates, which indicate the times per second that the screen renews the data it's supplied, are an important factor when it comes to display quality, because low refresh rates can cause flickering and eye strain. Current LCD refresh rates generally aren't a big problem, but exciting things are nonetheless happening with the technology.

Some newer HDTVs (high-definition televisions) are now boasting 120Hz refresh rates, and now ViewSonic (www.viewsonic.com) has announced a 22-inch prototype desktop LCD with the same refresh rate. The company claims that the 120Hz rate, along with the monitor's 3ms

(millisecond) response time, all but eliminates motion artifacts and ghosting. ViewSonic's prototype display is expected to be released later this year, but price details were not available at press time.

If you're a heavy watcher of DVDs or Blu-ray discs on your PC monitor, keep an eye on this development. That 120Hz rate is particularly relevant to motion pictures and television shows, which are filmed at 24fps (frames per second) and 30fps, respectively. The 120Hz refresh rate is a multiple of each and can thus handle both mediums more effectively than other rates. ■



The 120Hz refresh rates found in newer televisions, such as this Sony model, are coming to the desktop, allowing PC users to enjoy improved display of movies and television shows.

PRINTERS & PERIPHERALS

Prescription For Painful Typing

Are your keyboard and mouse looking a little long in the tooth? Do you feel as though your hands are stuck in unnatural positions after long periods of typing? If this is the year you treat yourself to a new combo, consider Logitech's new Cordless Desktop Wave Pro (\$129.99; www.logitech.com), which focuses primarily on comfort.

The keyboard features Logitech's wave key design, which is intended to accommodate fingers in their natural position but doesn't require users to relearn how to type. Whereas certain other ergonomic keyboards alter the size of the keys, the Wave Pro keeps the key size consistent across the layout.

The rechargeable MX 1100 Cordless Laser Mouse lasts up to two months on a full charge, while Logitech claims the keyboard has a three-year battery life. A flashing indicator light alerts the user when batteries are low. The desktop duo

uses 2.4GHz wireless technology that has a range of up to 33 feet, and the keyboard uses 128-bit AES (Advanced Encryption Standard) for secure transmission. ■



If the thought of using an ergonomic keyboard is reminiscent of high school typing class, consider Logitech's Cordless Desktop Wave Pro, which doesn't require you to relearn typing.

CPUs, CHIPS & CARDS

Intel Turbocharges Processor Platform

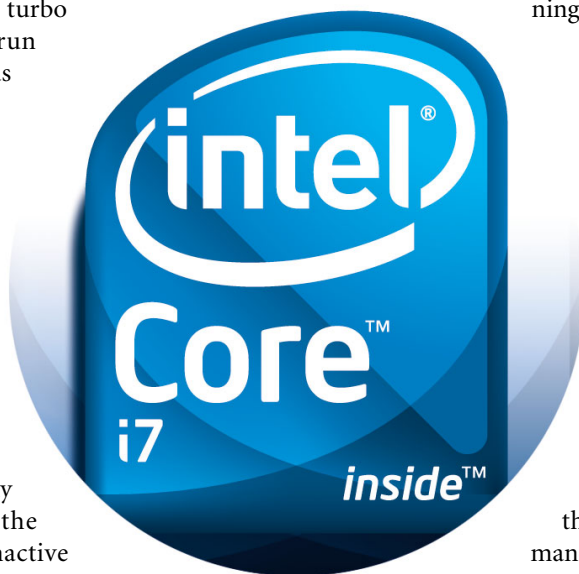
Imagine how impressed your neighbors would be if you could press a turbo button on your PC to make it run faster. Believe it or not, Intel has actually created a turbo button of sorts for its new Core i7 processors.

Set to enter production late this year, Core i7 (previously known as the "Nehalem") processors will feature two to eight cores and two-way simultaneous multithreading. They will also feature Turbo Mode technology, which approaches performance from an interesting angle. Instead of simply overpowering all the cores on the chip, this technology disables inactive

cores and shuffles more power to the running cores.

"It provides the best of both worlds," said Intel Fellow Rajesh Kumar at the Intel Developers Forum in San Francisco. "Higher performance and energy efficiency are not mutually exclusive if you innovate enough."

But it's not just Turbo Mode that makes the Core i7 family attractive. The processors also include an integrated memory controller that supports triple-channel DDR3-1333 memory. As part of the processors' QuickPath technology, the controller ramps up the performance of data transfer. ■



DIGITAL MISCELLANEA

Not Your Momma's Singer

If you need a new sewing machine and have plenty of money to spare, consider Brother's Quattro 6000D (about \$8,000; www.brotherquattro.com), which includes a wide-angle HD LCD, nearly 50 square inches of workspace, three USB ports, and more.

The machine's 4.5- x 7-inch display can accommodate 260,000 possible colors with no color shifting and allows for almost instantaneous rendering, so users can see designs and stitches quickly. Five built-in screen savers are also included, and the screen can also be used to display the included instructional videos.

The Quattro 6000D features 601 built-in embroidery designs; InnovEye adjustment technology that provides precise needle placement; an up-close viewer; Print and Stitch technology for 3D craft art; angle views for down-the-needle viewing; new light-diffusing technology; and full-spectrum LEDs (light-emitting diodes) that mimic natural daylight.

Also included are built-in Kanji designs, Japanese designs, vintage designs, square quilting designs, initial designs, and Swiss

designs based on Swiss lace samples. Further, there are 160 designs featuring Disney/Pixar characters and a built-in Greek alphabet. ■



Called the "dream machine" for sewing, quilting, and crafting, the Quattro 6000D features a wide-angle HD LCD, three USB ports, adjustable lighting, and more.

PROBLEM-SOLVER: TROUBLESHOOTING THE NEWS

Windows XP constantly tells me my drive needs to be checked for consistency.

If this occurs after each time you boot the PC, your shutdown procedure might be corrupting data. After you have completely booted into the Windows environment, use the Chkdsk utility in Repair mode to help find and eliminate the problem. Click Start, select Run, type `chkdsk /r`, and press ENTER. A window will pop up and show the status of the test as it runs and will close when the test is completed.

Can I hook up two computers to my LCD monitor?

Many of today's monitors include both digital and analog inputs to accommodate varying hardware on PCs. You can use these inputs to your advantage if you have multiple computers in the same space by connecting one to each input. With the press of a button, the monitor should allow you to switch between the inputs for the display you want at any given time.

My wireless mouse doesn't work correctly after returning from Sleep mode.

Check the power management features for the mouse. In Vista, click Start, Control Panel, and select

Mouse under Hardware And Sound. Select the Hardware tab and click the Properties button. In the Mouse Properties window, select the Power Management tab. Make sure the Allow This Device To Wake The Computer option is enabled.

I need to flash my motherboard's BIOS (Basic Input/Output System), but I don't have a floppy drive.

Depending on your motherboard manufacturer, you may have other options. For example, you might have an option to update your BIOS from a file saved to your hard drive. Check the manufacturer's support site for options. ■

Tap Into iPhone Goodness

So you bought an iPhone. Now what? Although this smartphone includes nifty software of its own, smart owners regularly tap into the massive catalog of programs that can truly enhance the iPhone's productivity and entertainment value. Here's a look at some of the more popular programs populating iPhones today. (All applications are available through the iTunes Store.)

Shazam (free). Ever hear a song and wish you knew who the artist was? With Shazam, you can hold your iPhone to any source of music (radio, TV, a movie, etc.), and the program will automatically identify it for you. You can also connect directly to iTunes and buy the music, see related videos of the track on YouTube, and more.

Remote (free). Using a Wi-Fi connection, the Remote application lets you use your iPhone as a remote to play, pause, skip, or shuffle any tracks in your iTunes Library.

Google Mobile App (free). It's Google on the go, with quick iPhone contact search; location-aware results; Web address auto-completion; and one-touch access to Google services, such as Maps, Gmail, News, and others.

Ambiance (99 cents). Described as an "environment enhancer," this program lets you plug in a pair of headphones and listen to any of a large selection of ambient noises, such as crickets, fire, rain, a stream, waves, and more.

Vicinity (\$2.99). Who needs a GPS (global positioning system) unit

when you have an iPhone? With Vicinity, you'll have one-tap access to nearby services and amenities such as restaurants, convenience stores, bars, taxis, and more.

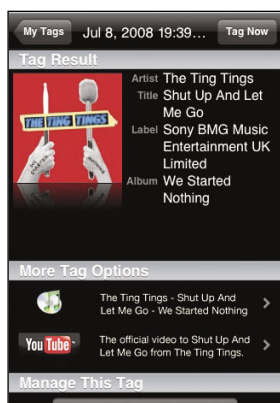
Pandora (free). If you like online music streams, you'll love the Pandora application, which lets you simply enter an artist name or song name, and Pandora will create a station that includes that music and similar tracks to stream on your iPhone.

IM+ All-in-One Messenger (free). If you use more than one instant messaging service, this application is for you, with support for AIM, MSM/Windows Live Messenger, Yahoo!, ICQ, Jabber, Google Talk, and MySpaceIM.

eBay Mobile (free). Need access to your eBay auction when you're on the go? This application is designed specifically for the iPhone with a streamlined interface that's just right for the screen's size.

Wikipanion (free). For the Wikipedia junkie in you, this program can keep you infinitely satisfied, with custom page formatting and quick section browsing.

Flashlight (free). For those times when you feel like MacGyver, the Flashlight application fills the iPhone's screen with bright white light to create an instant flashlight. It also features custom colors and strobe lights. ■



With the Shazam application, you can hold your iPhone up to any music source to receive instant identification of the track, along with related links.

DULY QUOTED

“People who send their money are as guilty as those who are asking them to send the money.”

—Nigerian high commissioner Olu Agbi condemns not only Nigerians who use email and other methods to scam foreigners but also the victims who send money to the scammers.

Source: *The Sydney Morning Herald*

News From The Help Desk

Our Most Common Tech Calls

COMPILED BY SETH COLANER

Each month, we receive numerous technical support calls and email messages. Some computer problems are fairly common, and we find that many callers struggle to resolve the same issues. In this article, we cover some of the most common or timely tech support questions and provide our solution for each of them.

Q I'd like to upgrade the RAM (random access memory) on my computer. How do I know what to buy?

A Upgrading your computer's RAM is one of the best ways to speed it up. Before you buy, you need to ascertain whether your computer supports any more RAM than it already has, what type of RAM you need, and how much extra RAM will give you the performance boost you're looking for.

First, check to see how much RAM your computer currently has. Click Start, Control Panel, Performance And Maintenance, and System. Look under Computer on the General tab to find the amount of RAM, which will be expressed in either MB (megabytes) or GB (gigabytes). If you have less than 1GB of RAM, it's a good idea to get more if you plan to use your computer for much more than Web browsing, word processing, email, and listening to music.

Visit your motherboard manufacturer's Web site (or if you have a laptop, see the laptop manufacturer's Web site) to see if your computer supports any more RAM. You should be able to look up your computer or motherboard and find this info with little trouble. This visit should also tell you what type of RAM you need.

A useful tool for determining what motherboard you have (as well as what type of RAM your computer needs) is

PC Wizard 2008 (free; www.cpuid.com). After you download and install the program, run it and click the Mainboard icon in the left window. Note the make and model of the motherboard under Mainboard.

Click Physical Memory; the description will tell you how much RAM you have, as well as the type. For example, it may say 1,024MB (which is the same as 1GB) DDR-SDRAM. Under the Information tab, you can also see the RAM manufacturer, such as OCZ or Crucial. Whatever RAM you end up buying, make sure any and all RAM sticks are from the same manufacturer to ensure compatibility.

Most systems have two sticks of RAM, called DIMMs (dual in-line memory modules). When you upgrade your RAM, you usually must remove the DIMMs to make room for its higher-capacity replacement. For example, if you have 1GB of RAM, it's probable that you have two DIMMs of 512MB (half a gigabyte) each. Be sure to take into account the amount of RAM you already have before purchasing more RAM.

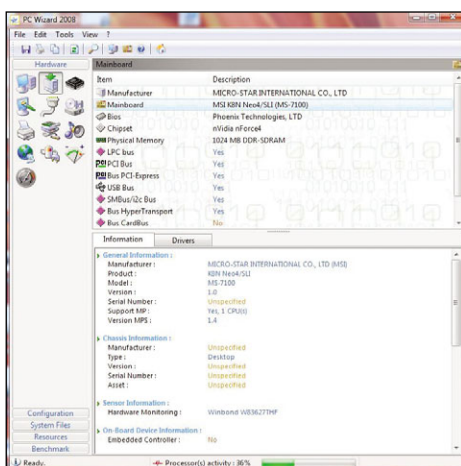
Most systems will run well with 1 to 2GB of RAM. If you're gaming or using other memory-intensive applications, 2GB is a must, but more than 4GB is overkill.

Q How can I restrict my children's access to the Internet to only approved Web sites? I want them to learn how to use computers, but I also want to protect them (and the family computer, for that matter) from online dangers.

A Indeed, one of the great tensions in parenthood is finding the balance between letting your children explore the world and simultaneously protecting them from all the dangers therein. The Internet is definitely no exception.

Although you'll still need to decide how much freedom is too much for Junior to handle, there is a handy application from Microsoft called Windows SteadyState that lets you control virtually every aspect of a user's computing experience, most notably the available applications and the Internet.

Download SteadyState from tinyurl.com/ytknan. Once installed, open the program and click Add A New User (or click an existing account to modify it). Set the username and password and click OK and the Feature Restrictions tab. From there, you can check boxes to set limitations on what Junior can do with his new user account. Note that in the text field under Web Addresses Allowed, you can enter Web sites that your little one can visit without being blocked. Checkmark the Prevent Internet Access (Except Web Sites Below) box to add URLs to the allowed list. From



PC Wizard 2008 is a tool that shows you valuable information about your computer's hardware.

the main screen, you can click this user account and edit the settings any time in the future.

Q I could really use some additional ports (USB, FireWire, etc.) for my computer, but I have a laptop. Is there a way I can add some ports?

A You can add functionality to your computer by purchasing a card equipped with ports such as USB, FireWire, and Ethernet or other functionality, such as Wi-Fi. The card is inserted into a slot on the side of the laptop case.

There are several types of cards, so you need to be certain you purchase the type of card that fits your computer. (If you search the laptop manufacturer's Web site for your computer's model and type, you'll find which type of card slot you have under Expansion or Expansion Slots.)

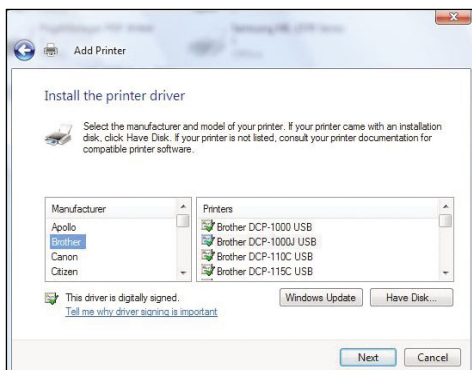
Note that most laptops have just one or two slots, and even if you have more than one slot, you may only be able to insert one card at a time depending upon the size of the card. (It may, for example, have a very bulky end to accommodate multiple ports, which could block the other card slot.) Either way, you're still limited to what you can add because a single card slot can only support so many ports. For example, a single card may get you one or two extra USB or FireWire ports and no more. If you need much more than that, it's probably time to upgrade to a new computer.

Common card types include CardBus, PC Card Type I/II, PCMCIA (Personal Computer Memory Card International Association), and ExpressCard.

You can also use a hub to add ports. A hub is a device with several ports that attaches to one port of your computer. Think of it like a power strip—it takes up only one plug of an outlet but provides you with several additional plugs.

Q I need to reinstall the Windows Vista drivers for my printer, but I lost the CD that came with it. What can I do?

A You can contact the printer manufacturer and see if it is willing to send you a new CD; you may need to pay a fee, though. But you have two simpler options: You can download the necessary drivers from the manufacturer's



Windows Vista already has drivers for many printers, eliminating the need for an installation CD.

Feature Package Topics

Each *Smart Computing* issue includes tips, reviews, and information about a variety of topics. However, each issue also has a featured group of articles about a selected topic. Below is a list of the Feature Packages from the previous year. As a *Smart Computing* subscriber, you have access to all of our archived articles at www.smartcomputing.com.

November 2007:	How To Edit, Protect & Restore Critical PC Settings
December 2007:	Laptops Take Over
January 2008:	Get It All: Power, Price & Portability
February 2008:	Time For A PC Tune-Up: Improve Speed, Performance & Reliability
March 2008:	Get More Out Of Your PC: Here's What You Can Do!
April 2008:	Solve Common PC Problems: Fix It Yourself Step-By-Step!
May 2008:	The Perfect Home Network: A Step-By-Step Guide
June 2008:	Protect Your PC & Your Privacy: Block Intruders & Malware
July 2008:	Go Wireless: Share Audio, Video & Data Without Cable Clutter
August 2008:	Clean Out Your PC: Preventive Maintenance
September 2008:	Troubleshoot Software: Get Rid Of Glitches
October 2008:	Do It Yourself: Notebook Repair
	Boost Your PC's Performance: Optimize Windows & Upgrade Hardware

Web site, or it's very possible that Windows Vista has built-in support for your printer and you don't need the CD at all.

Many manufacturers offer free downloads of their products' drivers online (for printers and other devices, as well). You'll have to hunt around the site for a bit before you find the download page, but it's worth it. Once you find the most recent drivers for your printer, download and install them on your computer. Your printer should then be ready to go.

Chances are, if you have a newer printer, you can just plug it into your Windows Vista computer, and the device will install automatically. To check if your printer is supported, click Start, Control Panel, and Printer (under Hardware And Sound). Click Add A Printer on the toolbar near the top of the window. When the dialog box appears, follow the instructions and answer the questions about the type of printer you have and what port it will be on. When you reach the Install The Printer Driver screen, scroll down the list of manufacturers and models to see if your printer is listed. If it is, your printer is supported. Click Next, click Next again, and wait for the drivers to install. ■

Turn A Digital Photo Into Art

Order A Stunning Gallery Wrap Online

Marty Sems

Send your comments to
marty@smartcomputing.com



MyLife - MyArt

\$69 and up
 Brilliant Image
 (800) 493-1334
www.mylife-myart.com

Utterly brilliant. In this age of digital photography, it's only natural to turn to an online service to turn a special photo into an amazing work of art.

I've been very impressed with the MyLife - MyArt canvas prints I've ordered from Brilliant Image. This easy-to-use service lets you upload a digital photo (or mail in a print) and get a beautiful gallery wrap or framed picture in a few weeks.

You can find similar services at local photography studios, of course, but there's a lot to be said for ordering right from your computer in a matter of minutes. I've had great luck with MyLife - MyArt prints, and the prices are competitive.

I own two 12- x 16-inch gallery wraps, which retail for \$79 plus shipping. Each has a piano hanging

wire inside its wooden frame. My most recent one extends an inch and a half from the wall, but the one I ordered two years ago is two inches deep. It's not a big deal, but rather something to consider if you already own other gallery wraps and you want another one to hang next to them.

How do they look? Uniformly fabulous, in my experience. Of course, it's my daughter in both pictures, so as you can imagine, I'm a little biased. The one the company printed from the photographer's original digital file has brighter colors than the one I scanned from a print, but that is to be expected. Brilliant Image perfectly

sized both wraps to display my daughter from head to toe.

It's A Wrap

Here's how the process works. I don't normally recommend using Internet Explorer, but you might need to for this transaction—I couldn't complete the uploading process using the Firefox-based Sea-Monkey browser.

At MyLife-MyArt.com, click the Order Now button. Type a descriptive name in the Name Your Painting field. If you want Brilliant Image to split your photo into two, three, or four separate panels (which multiplies your cost), click the appropriate button.

Finally, choose a size and frame style. Your choice of frames include simple wood with a walnut, maple, or black finish, as well as a couple of more ornate options. Available sizes run from 12 x 12 inches to huge, impressive 40- x 60-inch prints. If you don't see the size or frame you want, or if you want to submit multiple photos for a collage, contact Brilliant Image about custom options.

Minor touchups, such as red-eye reduction and sepia/black-and-white conversion, are included in the price. Other services, such as digitally removing your niece's ex-boyfriend, are available for an additional fee. Click Alterations to learn more.

Finally, click Submit to enter your credit card details, shipping address, and so on. Brilliant Image offers a 30-day money-back guarantee.

The MyLife - MyArt site says that the turnaround time for a typical print is two weeks, but my recent order took about five and half weeks to arrive. That's something to keep in mind if you're ordering a print for the holidays or someone's birthday.

If you're short on time, never fear: You can order a MyLife - MyArt gift certificate. When you consider that many of the best family photos are the ones taken during the holidays when everyone is together, a gift certificate starts to sound like a phenomenal idea. Moreover, a brilliant gallery wrap or framed print is a terrific package to unwrap during those blah winter months of January and February. ■

Instant Pictures

No Shaking Necessary

Tara Simmons

Send your comments to
tara@smartcomputing.com



PoGo

\$149

Polaroid

(800) 343-5000

www.polaroid.com



Selphy CP760

\$99.99

Canon

(800) 652-2666

www.usa.canon.com

Many of my baby pictures were taken with a Polaroid instant camera, so the announcement earlier this year that Polaroid would stop manufacturing instant film left me a bit nostalgic. There's just something about watching the muted tones of the picture emerge in my hand that reminds me of simpler times.

Admittedly, few things are simpler or more instant than digital photography today. Snap a photo and you can see the image on the camera's LCD. The journey from the camera to full-fledged print isn't much further. You can have prints in minutes with the many photo printers on the market today. In honor of the original instant camera, I took a look at two new compact printers: the Polaroid PoGo and the Canon Selphy CP760.

PoGo

The PoGo is an ultra-compact photo printer that's easy to tote around and equally easy to use. At 4.7 x 2.8 x 0.9 inches (HxWxD), the device will easily fit in a coat pocket, and the built-in rechargeable battery makes it even more portable. The small size also means it prints small 2- x 3-inch pictures (one size only). It's a cinch to attach a PictBridge-capable camera or sync a Bluetooth-enabled cell phone and select and print an image from the source device. Photos from my phone and camera consistently printed in just under a minute.

Besides its size, the feature that sets this printer apart is the fact that it doesn't use ink, which is reminiscent of the original Polaroid camera. Instead of self-developing film, though, it uses special ZINK (Zero Ink) paper that changes color when heated. The sheets are sturdy and have an adhesive backing. A pack of 30 sheets costs about \$10.

I was disappointed to find that pictures printed on this paper were slightly grainy, and the color was a bit off. Black-and-white photos had a tinge of blue-green, and

colors weren't as vibrant as I'd like to see. Imperfect prints might not matter to someone who wants to print at this size.

Though in some ways this seems to be Polaroid's modern-day take on the classic, it won't have nearly as much mass appeal as the original. Slap a camera on that thing, and you might have something. To be fair, I fall outside Polaroid's target demographic for this product in that I don't do a lot of scrapbooking or have a locker whose blank walls are begging me to stick miniature pictures of my friends on them. Preteens and teens might find this a pretty cool gift.

Selphy CP760

While still compact (3.3 x 7.9 x 5.6 inches) and mobile (though there's not a rechargeable battery; you must use the included power adapter), the Canon Selphy offers more of what you might expect from a photo printer. This easy-to-use printer produces 4- x 6-inch photos in just over a minute. You can print photos through a PictBridge connection, a USB connection, an optional Bluetooth adapter (\$50), or the handy memory card slot. (Supported memory cards include SD [Secure Digital], miniSD, MMC [MultimediaCard], MS [Memory Stick], and MS Duo.) The 2.5-inch LCD lets you choose a picture, but you can only scroll through them one or five at a time—a slow pace if you have hundreds of photos on your card. The LCD also lets you make basic selections such as red-eye fix or black-and-white prints. Most of the time, I opted to connect via my PictBridge cable to sort through pictures and make color selections on my Canon camera, which made the process much faster.

This printer employs a dye-sublimation printing method, which requires a ribbon rather than ink. You'll need to purchase a ribbon/paper combo that costs about \$12 for 36 prints. While the subdued colors of old Polaroid prints might leave me a bit nostalgic, I want the pictures I print today to be true-to-life, and here, the CP760 didn't disappoint. Photos I printed were clear and vibrant. The only problem I saw was that skin tones were sometimes a bit light.

The CP760 let me easily print quality photos almost anywhere I went, which is exactly what I need in a photo printer. ■

What's That Sound?

A Bee-Boppin' Piggy & Aura-outputting Speaker

Blaine Flamig

Send your comments to
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T3

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Orbitsound
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www.orbitsound.co.uk



iPig

\$139.99

Speakal
sales@speakal.com
www.speakal.com

Full disclosure: Beyond my family and friends, there's probably nothing I love more than music. I'll talk about it with anyone, any time, any place. I'll ask for your favorite song, band, instrument, singer, and lyrics. I want to know the first song you danced to at your wedding and the first concert you went to. I'll ask if you've been to Graceland and Beale Street in Memphis, Music Row in Nashville, CBGB in New York, First Avenue in Minneapolis, Buddy Guy's Legends in Chicago, and Tipitina's in New Orleans. I'll listen to about anything once, and as audio equipment goes, I'll look at anything from a \$5,000 speaker system to \$10 headphones with sincere interest. So, if you're questioning why I'd enthusiastically test an iPod dock shaped like a pig and a mobile speaker you hang around the neck, you now know.

First, about that pig. Upon encountering Speakal's iPig—a piggy bank-lookalike iPod docking/stereo system—the urge to lob swine-related barbs was irresistible. “I hope it's not a stinker?” “That dock is a real porker.” “Hey, stop hogging my iPod.” “Speakal has a real ham and egger on its hands.” Grade-school funny bone satisfied, I soon discovered the iPig is not only great looking—it ships in white, pink, and yellow and should particularly complement any kid's room—it outputs audio from four built-in satellites and a 4-inch subwoofer that aren't bad at all.

Speakal designed the speakers and sub so they emit audio in 360 degrees. You can control bass and treble from an included remote, which also controls a docked iPod. A 3.5mm auxiliary jack at back lets you connect other DAPs (digital audio players) or a portable and standalone gaming console, DVD player, TV, laptop, or other device. A green LED in the iPig's mouth also flashes during certain commands and playback. Also cute are the iPig's ears, which are touch-sensitive—a light

touch with a fingertip turns the volume up (right ear) or down (left ear).

Speakal integrates bass, sound-distribution, and sound-stabilization technologies to bolster audio quality. Just don't expect a massive wall of sound; the dock only outputs 25 watts of total power. Still, the iPig ably filled smaller rooms I tested it in with bass frequencies being particularly rich and resonating and mids and highs only slightly less satisfying. Compared to many iPod docks I've used (most with far less visual appeal), the iPig stands up nicely audio-wise. Negatively, getting the iPig to squeal costs nearly \$140—a lot of bacon for any iPod dock.

Orbitsound's T3, meanwhile, also outputs audio (just 8 watts) from iPods, DAPs, and other devices connected to its 3.5mm jack. The T3, however, uses “single-point stereo technology that delivers true stereo sound from a single speaker.” Translated, the T3 uses sound-processing technology from airSOUND (www.airsound.net) that converts audio into spatial (left and right) and main audio signals all aimed at creating “your own personal stereo aura around your head.” To best accomplish this, you need to use the included lanyard and hang the smartphone-sized T3 around your neck. (The T3 only weighs about 4 ounces.) You can also lay the T3 on a flat surface and output audio, but the further you move away, the more you diminish the aura experience. A slider on the T3's side switches among Off, Normal, and Max spatial-sound settings.

Overall, doing away with headphones and still getting above-average, stereo-quality audio from any location is liberating. I used the T3, for example, to play songs, FM radio, DVD movies, and more using a Creative Zen, iPod nano, laptop, DVD player, and TV in my backyard, kitchen, bathroom, bedroom, and car. Paired with my bedroom TV, for example, the T3 let me turn the TV's volume down but gain a fuller sound. Audio was on the tinny side and bass a bit flat, but the T3 is still comparable to other midrange iPod docks I've used and far more mobile. Another positive is that the T3 has a rechargeable, built-in lithium battery that's chargeable from an electrical outlet or USB port, giving you cord-free use for 10-plus hours. Unfortunately, like the iPig, the T3 is somewhat expensive at nearly \$150. ■

A Camera For Today's Photographer

Canon's 50D

Jennifer Johnson

*Send your comments to
jennifer@smartcomputing.com*

The Photographer. Every family has one; some families have more than one. You may love us, or you may avoid us, but either way, we're going to take your picture to preserve family memories whether you like it or not. Years later, as you look through photographs of cherished times, we hope you'll appreciate the fact that someone was there to capture the moment. After all, nothing helps us recall and relive the joy of a newborn baby, a fun family get-together, or an accomplishment quite like a good picture.

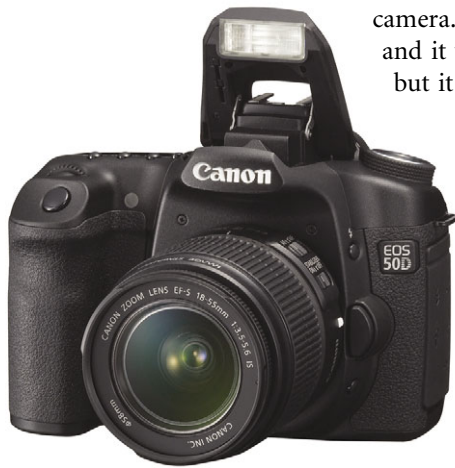
I've always been "The Photographer" in my family. When I was younger, I saved some money and bought my own film camera. It wasn't anything terribly special, and it wasn't very costly by today's terms, but it did the job. In 2000, I received my first digital camera as a gift. It wasn't a super-high end model, but I thoroughly enjoyed using that 1.2MP camera nonetheless. Over the years, I upgraded as money would allow. A few years ago, my husband convinced me to make the jump to a D-SLR. Since then, my interest in photography has increased tremendously, in part because there are so many new things to learn, along with new tips and techniques for me to try.

Recently, I had the chance to check out a preproduction unit of Canon's new 50D. This midrange D-SLR is much nicer than my entry-level model from a few years ago, and it is a good demonstrator of the many cool new options today's D-SLRs have to offer.

frame an image using the camera's LCD, much the same way you would frame an image using a compact digital camera. Although I've adjusted to the fact that I must use the optical viewfinder on my older D-SLR, the 50D's Live View feature definitely makes me a little envious. I wouldn't use Live View all of the time, but it's certainly very useful for times when I'm shooting a very low-lying object, such as a flower, or when I'm in a crowd trying to take a picture with the camera held above my head.

The 50D's kit lens has image stabilization, another feature that wasn't terribly affordable a few years ago when I bought my camera and lens. Although I could always upgrade my lens for my existing camera to get this functionality, it's nice that the 50D's kit lens includes it. With image stabilization, I can capture crisp, nonblurry images using slower shutter speeds than I would be able to shoot without this feature. For someone who takes a fair amount of pictures indoors, image stabilization combined with the 50D's zoom kit lens is very useful.

While the 50D targets a more advanced amateur photographer than some of Canon's entry-level models, this camera offers plenty of easy-to-use, automatic features for someone who is unfamiliar with the technical aspects of photography. As a result, this camera is also a good fit for someone who doesn't know a lot right now but wants a camera that can grow with them as they learn more. Some of the camera's automatic features include preset image control modes that are similar to those found on a compact digital camera, such as portrait, landscape, close-up, sports, night portrait, and flash off.



EOS 50D

\$1,399 body only
\$1,599 with EF 28-135mm f/
3.5-5.6 IS USM lens
Canon
(800) 652-2666
www.canon.com

Make The Jump

Even though there are many new features available for D-SLRs today that weren't available when I bought my camera, I don't regret my purchase. For anyone who is thinking about trading up to a D-SLR, I would encourage you to take the plunge. As with other technologies, the camera market will continue to evolve, and there will be new features available in three years that aren't available today that will cause you to drool (just as I do with the 50D), but think of all of the fun you can have in the meantime. ■

Past & Present

When my husband and I were shopping for an affordable D-SLR a few years ago, Live View mode was not available. Today, however, many D-SLRs including the Canon 50D have Live View, a feature that lets you

Internet Browsers

How To Choose

Add-ons for browsers can enhance your time online. From language packs to improved search tools, they offer nearly limitless ways to configure your browser. If you find there's a feature missing in a browser you otherwise like, don't dismiss it completely. There might just be a way to add the functionality.

Internet Explorer 8 Beta
Free
Microsoft
(800) 426-9400
www.microsoft.com



Firefox 3
Free
Mozilla
Online only
www.mozilla.com



We use our browsers every day, so it makes sense that we'd want one that's easy to use with plenty of extras. You may already have a browser that you've become comfortable using, but with new versions available from the major players, it's worth your time to explore the options. Most browsers offer similar tools, but each has its own special features that make it unique.

We've tried some of the most popular Internet browsers, and we'll give you an overview of each, covering the newest features and pointing out some of the minor downfalls.

Internet Explorer 8 Beta

Although Internet Explorer 8 is still in beta, its new features are shaping it into a promising Web browser. IE8 packs a series of security features that reassure your safety while browsing the Internet. Among these security features is the Safety Filter, which is an enhanced phishing filter. Another safety feature, Domain Highlighting

Microsoft®

illustrates in bold lettering the top level domain in your Address bar so that you can verify that you're visiting the site you really want. Lastly, the SmartScreen Filter (available in Beta 2), will help to protect against phishing attacks that may attempt to attain your personal information.

IE8 also features two new tools that make updating and viewing your frequently visited sites easier. With Accelerators, you can highlight information on any page and send it to another Web site or application. For example, you might search for the address of the nearest pizza place, highlight the address, click the arrow that appears, and choose to send the information to Google Maps, which will then show you a map of the location. The only catch is that you have to add

individual "accelerator providers" in order for the tools to work, which was a little difficult to figure out at first. (Hint: Click the blue arrow, select More Accelerators, and click Find More Accelerators.) Once understood, however, the tools worked like a charm.

Web Slices also make browsing easier by providing you with one-click access to your favorite sites' updates by placing the information on your toolbar. You can keep track of that competitive eBay auction or your friends' status updates on Facebook. The catch here is that this won't work on just any site. Web developers have to create a compatible accelerator that you can then add to your browser. If the accelerator exists (and we're sure more sites will support this feature in the future), all you have to do is mouse over status content on a page and choose to add it as a Web Slice.

Firefox 3

Firefox 3 launched recently with several useful features to help make browsing even easier. For starters, FF3 includes improved security features such as the Instant Web Site ID, which provides information about the sites from which you are purchasing a product, such as saved passwords and the number of times you've visited the site. Anti-Malware protects you from viruses, worms, Trojan horses, and spyware, so if you accidentally browse to an unsafe site, FF3 will let you know by showing you a full-sized warning message. The Parental Control feature lets you use the settings



you've made in Windows Vista to stay in charge of downloads and more.

Other new FF3 features include One-Click Bookmarking, which takes the form of a star on the right side of the Address bar. When you want to bookmark a site, simply click the star once, turning it yellow. If you click the star a second time, you can specify in which folder you'd like to save the bookmark. Next, the Smart Location Bar makes navigating to your favorite sites



quicker, even if you can't remember the whole address. Simply start typing part of the Web address (or even the subject of the site) in the Address bar, and the auto-complete function lists possible sites for you to choose from. We found this feature helpful because the drop-down list of possible matches was easy to read, especially compared to other browsers' small-font lists. One revised feature, the Password Manager, eliminates pop-ups that ask you whether you want to save passwords. Instead, the Password Manager gives you password management options by integrating a message bar at the top of the page. Firefox 3 also includes thousands of ways to customize your browser with the Add-ons Manager, and makes them easily accessible by integrating them right into the toolbar. Add-ons include widgets for weather, photos, and music, among others, and were easy to install.

Opera 9.5

Opera's latest features make it a strong contender in the Internet browser arena. Opera 9.5 seems to focus mainly on making browsing simpler, though there are also new security features such as Fraud Protection and EV (Extended Validation) certificates to help combat fraudulent Web sites. But security features are only a fraction of what the new Opera has to offer. There are several browsing enhancements such as Quick Find, which lets you search

the browser history for not only the titles of the pages you've typed into your browser's Address bar, but also the content of the pages you've visited. Another useful addition is Opera Link, which lets you sync



your bookmarks and Speed Dial (more on this later) to other computers or your mobile phone, so you're connected to your favorite sites no matter where you are.

One of our favorite additions was Opera's Speed Dial, which is basically a home page with visual bookmarks for your favorite sites, available the moment you start Opera. Using Speed Dial was simple. All you have to do is click an empty Speed Dial slot and type in the address of your favorite site, and Opera will add it.

Opera includes other helpful features, such as the ability to resize Web pages for easier reading with Zoom and Fit To Width. Zoom will make text larger, while Fit To Width will resize Web pages that are too wide to fit within your screen. Opera also includes countless ways to customize your browser, with skins, setups, the addition or removal of buttons, and widgets. Skins were easy to download and made the Speed Dial page even more fun to look at and use. Widgets were simple to add, but didn't fit seamlessly with the rest of the browser. In

Software Information

	Price	Company	Contact Information	URL	Notable Features
Internet Explorer 8 Beta	Free	Microsoft	(800) 426-9400	www.microsoft.com	<ul style="list-style-type: none"> Accelerators send information to other applications Web Slices monitors the status of auctions or Facebook friends
Firefox 3	Free	Mozilla	Online only	www.mozilla.com	<ul style="list-style-type: none"> Enhanced security features One-Click Bookmarking, Smart Location Bar
Opera 9.5	Free	Opera	Online only	www.opera.com	<ul style="list-style-type: none"> Speed Dial Zoom and Fit To Width, widgets
Safari 3.1	Free	Apple	(800) MY-APPLE	www.apple.com	<ul style="list-style-type: none"> Private Browsing Resizable Text Areas, SnapBack
Maxthon 2.1	Free	Maxthon	Online only	www.maxthon.com	<ul style="list-style-type: none"> Split View navigation Super Drag&Drop, Undo button

Safari 3.1

Free
Apple
(800) MY-APPLE
www.apple.com

**Maxthon 2.1**

Free
Maxthon
Online only
www.maxthon.com



Just before we went to print, search giant Google launched a new Internet browser: Chrome. Still in a beta (test) version, Chrome has the hallmarks of a modern Internet browser, including security features and tabs that let you display multiple Web pages simultaneously. It also has a new feature: the Address bar also lets you perform searches. It's too soon to say whether Google has a winner, but you can see for yourself by downloading the free browser from www.google.com/chrome.

order to access and view your widgets, you have to go to the Widgets menu and select the one you'd like from the list. We thought the widgets should have better integrated into the browser's toolbar.

Safari 3.1

The latest version of Safari sports many handy browsing tools that PC and Mac users can both appreciate. Like other browsers, Safari includes Security and Pop-Up Blocking features to protect your private information, and provides you with the means to check out the security certificates of the sites you're using. A notable feature is Private Browsing, which you can enable through the Edit menu on your browser, so Safari won't store your



Courtesy of Apple

searches, cookies, history, or downloads. Even better, if you forget to turn on Private Browsing, you can simply use Privacy Reset to delete your personal history.

Most of Safari's updates aim to make your browsing experience simpler and more fluid. One feature, Easy Bookmarks, lets you add bookmarks via the familiar iTunes interface; if you know how to use iTunes, you'll easily adjust to this new format. However, if you're unfamiliar with the iTunes interface (like some of us), adding and managing bookmarks can be a pain. With another feature called Resizable Text Areas, you can resize text input areas on any page by simply grabbing the box's corner and expanding it, giving you plenty of room to write your heart out. We tried the resizable text areas on several sites, and they worked without any trouble.

Another addition to Safari 3 is the Find ability, which lets you search for text on any page by pressing CTRL-F and typing a word in the Search box. SnapBack is a practical search tool that lets you return to your original search results, even if you've browsed dozens of pages away from your starting place. SnapBack is convenient to use because you can easily locate the orange and white arrow icon to the right of the

Address bar, and a simple click takes you back to the beginning.

Maxthon 2.1

Maxthon may not be at the top of the list of well-known browsers, but it's a solid package with plenty of qualities that could make you consider switching. Along with security enhancements such as Trusted Website Check and Clean Private Data (which lets you erase your browsing info), Maxthon 2 has a slew of browsing features that are functional and user-friendly. For starters, Super Drag&Drop lets you highlight a keyword in a Web site's text and drag it to the Search box or Address bar for quick, type-free searches. The Undo List helps you recover tabs that you closed by mistake, and even the Back/Forward history from that session is saved.

One of our favorite features was Split View, which let us view two Web pages side by side, giving us double the research space and the opportunity to compare two sites at once without switching between tabs or windows. Like other browsers, Maxthon offers customization with skins and plug-ins. Some plug-ins even let you make Maxthon more like other browsers. For example, you can



download Speed Dial, which looks similar to Opera's Speed Dial. Overall, Maxthon's browser was as solid as the others, but we were often confused by the large number of icons littering the toolbars; at times it seems as though there were more icons than one could use on a regular basis, and their inclusion on the toolbars made regular navigation somewhat difficult. However, because Maxthon is fully customizable, you can remove or add as many icons as you like.

In The End

At the end of the day, you can likely adapt to any Internet browser you choose, but we hope you'll find a browser with that one special feature that you can't live without. ■

BY KRIS GLASER



CarMD® Handheld Automotive Device & Software Kit | \$98.99 | www.carmd.com

Check Car Problems Off Your List This Holiday!

CarMD Helps Diagnose Hidden Engine Problems From Home Or On The Road

How many times have you seen the “Check Engine” light on your car’s dashboard and worried what it meant? Should you pull over? Call a tow truck? Drive straight to the mechanic? Maybe it’s just a loose gas cap. Thanks to the revolutionary CarMD handheld device, now virtually everyone who owns a vehicle can quickly and easily solve automotive repair mysteries—right from home.

How It Works

When your car’s “Check Engine” light appears, plug the CarMD handheld device into your vehicle’s Data Link Connector. (You can find the connector under the dashboard on all 1996 and newer vehicles.)

Within a few seconds, CarMD’s built-in LEDs let you know whether you can resume driving (Green = OK; yellow = possible problem; red = service required).

To learn more about your car’s problem, connect CarMD to your PC using the included software and USB cable. CarMD customers gain free access to an extensive online database (www.carmd.com) that helps diagnose the cause and estimate repair costs to help you save time and money and keep your mechanic honest.

Features & Benefits

- CarMD works on 1996 and newer OBD2 cars, light trucks, SUVs, and minivans—foreign and domestic. For sale and use in the U.S. only.

- The CarMD handheld device helps buyers identify lemons at used car sales lots.
- Lifetime software updates keep your CarMD device up to speed on car trouble codes.
- CarMD includes toll-free access to ASE Certified Techs.
- Great gift for car and truck owners!
- Plus, *Smart Computing* readers get \$10 off when you purchase online at www.CarMD.com using promo code: SmartNov.



Broad Protection

Internet Security 2009

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www.f-secureusa.com



Internet Security 2009 is a broad-based security suite offering deep-level virus and spyware protection, an Internet shield (firewall, application access control, intrusion protection, and dial-up control), spam/phishing control, and parental control. At the time of this writing, the product was too new to have been tested by virus labs. However, F-Secure has a solid reputation in this regard, so it should be a top performer. It also protects against **rootkits** (programs that mimic the Administrator to perform potentially malicious operations). Some security experts predict rootkit programs are the next up-and-coming threat, so being able to identify and eradicate them is a real bonus.

Out Of The Box

Installation is quick and easy for such a broad-based product. During setup, you can opt for custom or automated install (we reviewed the automated option), decide whether to set up or disable the Parental Controls feature (the default is On), and ask to learn more about the product (the default is No). If you change that answer to Yes, F-Secure offers a Product Tutorial, a Start-up Wizard, a Help button, and information on the company's mobile security solutions.

The tutorial leads you straight to the Internet (assuming you are connected), while the Start-up Wizard lets you make decisions regarding ongoing operation. We opted to run the Start-up Wizard the first time we used the program, but you can run it later via the F-Secure options on the Programs/All Programs menu. The wizard's customization offerings are minimal and mostly unnecessary, given the program's intuitive nature. Nevertheless, at some point you need to run a computer check and establish virus scan

Key Features: Highly intuitive, all-encompassing PC security suite is good for "set it and forget it" types.

schedules, both of which the wizard prompts you to do.

Plan To Scan

If you run the wizard and opt for a system scan, you cannot control which drives, folders, and other elements F-Secure scrutinizes, although you can make adjustments for subsequent scans. On our 650GB, two-drive system, the scan took three hours. We worked through the scan with little affect on performance, although the system halted a couple of times (once for about 20 seconds).

Because we were working, F-Secure was unable to clean a tracking cookie it found or scan some important files, including the archive file our backup program accessed during the scan. Consequently, we recommend you run the initial scan when you—and your backup software—won't use the PC for several hours. Shut down all running applications and let the initial scan run unimpeded.

Personal Choices

The product falls in the middle of the pack (among its peers) in terms of customizability. The spam controls have three presets—Aggressive, Medium, and Relaxed—and let you create Allow and Filter (check for spam) lists. However, you cannot block or allow by specific keywords or spam probability rank. The Parental Control feature has only three presets—Small Child, Teenager, or both—and you cannot create custom profiles for different users (nor can you

control or monitor program usage). The wizard lets you block content types and activities (for example drugs, sex, Webmail, and chat) and establish time restrictions. You must dig into the Advanced options to access browsing histories or execute site-level browsing control.

The Internet Shield and the Virus & Spy Protection modules offer numerous presets, but customization (which can be extensive) is better left to experts only. One preset we really liked was Performance-Optimized, which helps the program run on systems that aren't quite up to snuff.

Overall, the program worked so well only dedicated tinkerers (and maybe your oldest teenager) will be bothered by the lack of customizability. The system tray icon gives you quick access to all controls, and the program is so intuitive that pop-ups for Internet access were nonexistent (very nice). There is some lag time scanning incoming email attachments and opening complex files (such as Adobe Acrobat PDFs) but generally, performance is good. If you want a solid program that does its thing with minimal intrusion into your daily activities, this is a very good choice. **|**



BY JENNIFER FARWELL

Mix Your Own Music

Ringtone Media Studio 3

\$29.95

Avanquest | (800) 325-0834

www.avanquest.com



Ringtone Media Studio 3 is a mobile Ringtone, screen saver, and wall-paper maker and over-the-air transfer station for video, digital images, and other mobile files. Use or customize any of the 10,000 sample files it provides or grab something from your own library, including audio CDs, MP3s, and digital pictures and videos. Installation of the program is easy, and although the program asks which mobile phone you want to work with right after installation, you can adjust the setting at any time.

The interface that appears when you first open the program, Melody Studio, resembles many basic digital editors, with the analog wave form of the audio displayed for editing. Users who have done some digital mixing

will be right at home, but the process is simple enough for everyone. Open one or more songs, drag some sliders to capture the portion(s) you want, preview the ringtone through your speakers, and then save it. Other features, including DJ Ringtone (a digital sound lab), Image Studio and Video Studio (edit images and edit/create video for use on your phone) are both also reasonably easy to master. A Transfer To Phone option lets you convert files and send them to your phone via Infrared, Bluetooth, or over the air (requires

Internet access and registration with the My Locker site). Overall, it's a nice little program. **|**

BY JENNIFER FARWELL



Key Features: Works with all major carriers and over 950 devices; offers editing interfaces for an array of multimedia types.

Use Less Juice

LocalCooling 2

Free

Uniblue Research Labs | press@localcooling.net

www.localcooling.com



Worried about cooling down the planet—or just reducing your power bill? Download LocalCooling 2. This free tool shows you how much energy your PC consumes and helps you customize power settings more thoroughly than most PCs' built-in power management tools. Installation is a breeze, and operation occurs totally in the background. LocalCooling 2 sits minimized in the system tray until you are ready to tweak your settings. (Double-click the teal "snowflake" icon to access the program's interface.)

Once you're there, visit the My Power tab to review your system

components' energy usage, down to the video card and PC cooling fan. The General tab lets you set a power mode and tweak basic settings such as switching off the monitor or spinning down your hard drive. It also lets you see current power-usage reduction and, over time, how many trees and how much water and how many other resources your modifications have saved. The Advanced tab lets you make even more adjustments, one of which we really liked. When



Key Features: Optimizes PC energy consumption by helping tweak power settings

you instruct LocalCooling to shut off the PC after a specific duration, you can tell it to override shutdown before a certain time (such as midnight) or if a certain program (such as backup software) is running. Finally, use the My Account tab to upload your results and tally them with the rest of the world's, and you'll really feel like you're making a difference.

That's cool. **|**

BY JENNIFER FARWELL

This free tool shows you how much energy your PC consumes and helps you customize power settings more thoroughly than most PCs' built-in power management tools.



COMPILED BY JOSEPH MORAN

Microsoft News

Microsoft Touchscreen Computer Surfaces At Sheraton Hotels

Microsoft's Surface computer made its commercial debut earlier this year in AT&T retail stores, and now it can also be found in the lobbies of five Sheraton hotels (they're in Boston, New York, Chicago, Seattle, and San Francisco).

Sporting a 30-inch touch-sensitive display, Microsoft Surface is a computer that allows people to interact with it using natural hand gestures rather than conventional input devices such as a keyboard and mouse.

Sheraton is using Microsoft Surface as a virtual concierge from which guests can do things such as find maps and obtain information about local restaurants, entertainment, shopping, and various services. ■

Microsoft Money Now Sold Only Online

Microsoft has stopped selling Microsoft Money Plus in the traditional retail box format after 17 years on the market. Going forward, the personal finance application will only be available for purchase and download online.

The company cites the increased popularity of online shopping as one of the reasons for the decision, pointing out that more than half of Microsoft Money purchases last year were made online.

Microsoft Money Plus' shift to online distribution also marks the end of new annual versions of the software; Microsoft says it hasn't yet determined a schedule for future updates. ■

Microsoft Exploring Original Video Content For Zune

In the two years since its launch, Microsoft's Zune digital media player has been a perennial also-ran to Apple's far more popular iPod. But Microsoft is hoping that offering original video content is one way the Zune can emerge from iPod's shadow.

Therefore, the company is talking to talent agencies and production companies about developing Zune-exclusive programming to supplement the familiar audio and video content that's already available at the Zune Marketplace. Microsoft is also exploring ways for new content to take advantage of the Zune's social networking features. ■



zune™



The new Microsoft Surface lets Sheraton guests select music or browse information about the city they're visiting.

Windows Tips

Speech Recognition Means Less Typing & Clicking (Vista Only)

Using speech recognition in Windows used to require add-on software. Now it's built into every version of Vista, and it's ready to use.

Of course, you'll need a microphone. For best results, use a headset rather than a desktop mike or one built into a monitor. (They don't usually work as well, as they sit farther from your mouth and can pick up background noise.)

To turn on Vista's speech recognition feature, click Start, Control Panel, Ease Of Access, Speech Recognition Options, and Start Speech Recognition. From here, a wizard will let you test your microphone and take you through a tutorial that shows you how to use voice instead of the mouse and keyboard to issue commands and dictate text. You'll also have the opportunity to train Vista to better understand your voice, which can improve accuracy.

Vista's speech recognition takes some getting used to and isn't perfect, but it can be a useful way to create and edit documents and navigate Windows. ■

Use Software Explorer Instead Of MSCONFIG To Manage Startup Programs (WinXP & Vista)

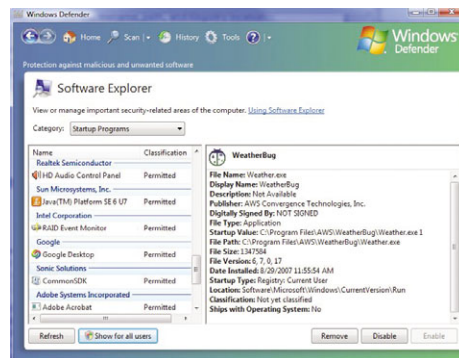
Microsoft's System Configuration utility (Msconfig) has long been a useful tool for finding and disabling programs that are configured to run automatically when Windows starts. But Msconfig's major weakness is that it provides only basic information on startup programs—such as the manufacturer and Registry location—and its cramped display makes this info tough to read.

Software Explorer, a feature built into Microsoft's Windows Defender anti-spyware utility, can make troubleshooting startup programs easier. Windows Defender is included with Windows Vista; if you have WinXP, download it free from tinyurl.com/5q36co.

Once Windows Defender is up and running, click the Tools menu and select Software Explorer (Hint: WinXP users will find a Control Panel shortcut [in Classic view] called Software Explorer that will take you to the right place without having to launch Windows Defender first.)

You'll see that Software Explorer gives you much more information about and control over startup programs than Msconfig. The left pane displays the name of startup items and includes Microsoft's security classification for most entries. On the right pane are details for the selected item including the exact date and time the program was installed and whether it came with Windows. You can click the Disable button to prevent any program from loading at startup, and unlike Msconfig, you can delete a program by clicking Remove.

On Vista systems, Software Explorer's Remove/Disable/Enable buttons will be grayed out for items that apply to all users. To get control of those items, click the Show All Users button. ■



Software Explorer gives you more and better organized information about startup programs than Msconfig.

Windows News

64-bit Vista Going Mainstream

The next Vista PC you buy will probably come with the 64-bit version of the operating system, as system manufacturers are increasingly putting it in their consumer and home-office oriented computers. Flip through Sunday circulars of big-box consumer electronics or office supply stores and you'll find 64-bit Vista systems well-represented.

In fact, according to Microsoft, the number of 64-bit Vista systems connecting to Windows Update has recently tripled, and 20% of the new Vista systems connecting to Windows Update in June were running the 64-bit OS. ■

Internet Explorer Gets Critical Security Update

Microsoft has issued a security update for six vulnerabilities in Internet Explorer. The update is deemed critical because it fixes issues that could give an attacker unauthorized access to your system if you visit a specially designed Web page.

The update applies to Internet Explorer 7, as well as many earlier versions and can be obtained via Windows Update or downloaded from tinyurl.com/6bdu46. ■

Microsoft Campaign "Experiments" On Vista Skeptics

Microsoft has launched a new ad campaign hoping to counter some of the negative impressions many still have about Windows Vista. The company gathered a group of Vista skeptics (made up mostly of Windows XP and Mac OS users) for a demonstration of a supposedly future Windows operating system code-named Mojave, that was actually Vista.

Microsoft says that a majority of the Mojave Experiment participants rated the operating system they saw more favorably than they had rated Vista prior to seeing the demo. No word on whether any of the experiment subjects actually switched to Vista, however. You can check out the videos at www.mojaveexperiment.com. ■

Windows XP

Protect Your PC With Security Center

Microsoft knew there was a problem.

By the time it shipped Service Pack 1 for Windows XP, the Redmond, Wash., company was well aware that its users simply couldn't connect their computers to the Internet without protective software such as an antivirus utility. To do so was to invite infection by viruses, worms, and nascent threats such as rootkits and botnets.

Therefore, in Service Pack 2, Microsoft endowed WinXP with a new feature called the Security Center. Despite its name, it doesn't protect against security threats per se.

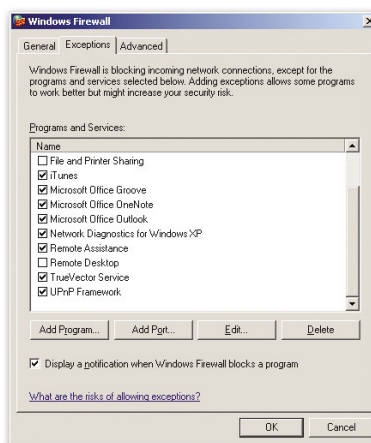
Instead, the Security Center gives you access to settings for the included Windows Firewall and WinXP's Automatic Updates download feature. It also maintains a vigil to make sure that you're running security software, such as antivirus and a firewall, whether from a third-party vendor or Microsoft itself. If the Security Center senses a gap in your PC's protective wall, it will tell you via pop-up messages and a red shield icon in the system tray.

To launch the Security Center, click Start, Control Panel, and Security Center. We'll talk about some of its highlights.

Firewall & Virus Protection

A firewall is a utility that analyzes the data trying to enter (and usually, the data that tries to leave) a computer and blocks all traffic that hasn't specifically been authorized by the user, the OS (operating system), or a trusted program. Because the Internet is full of worms that automatically search for vulnerable systems and infect them within minutes, a firewall is an essential piece of any computer's security complement.

Because of this, Microsoft accompanied the Security Center with a free utility now called the Windows Firewall. Although limited in scope, WinXP's version of Windows Firewall offers basic protection from inbound data. However, it fails miserably at outbound traffic inspection.



The Windows Firewall offers very basic protection from many network and Internet threats, but it's not as easy to configure as third-party firewall software.



The Security Center can tell you whether Windows XP senses any chinks in its armor. It also lets you access security and update settings.

(Vista's version is somewhat better in this regard, but still not in the big leagues compared to third-party firewalls.) What this means is that if there is some existing malware on your system, and it "phones home" with your sensitive data, WinXP's firewall may blithely let it. On the plus side, Windows Firewall automatically turns itself on when WinXP doesn't detect that you have another firewall running. That comes in handy when you're upgrading your third-party security software, for example.

The Security Center lists "on" or "off" status information for the PC's Firewall, Automatic Updates, and Virus Protection categories. Click an entry's double down arrow icon for more details; click it again to hide the commentary.

The Security Center's monitoring isn't perfect, but it's better than nothing. For instance, it doesn't recognize every firewall nor antivirus utility, so it might tell you that your PC is unprotected when it really isn't. By the same token, some of the applications the Security Center does recognize aren't adequate, yet it will tell you that your computer is fully protected.

(NOTE: When we talk about firewalls in these pages, we usually mean a software utility. However, network routers also provide some level of firewall protection "in

hardware,” meaning that the network traffic gatekeeping occurs whenever the device is turned on without the need for user intervention. The Security Center can’t detect hardware firewalls, so if you’re relying solely on your router for this functionality instead of on a software firewall [not a good idea, by the way], WinXP will tell you that your computer is unprotected.)

To tell the Security Center to stop bugging you when it doesn’t recognize software you’ve installed, under the Resources list on the left, click Change The Way Security Center Alerts Me. Here you’ll find checkboxes that can enable warning messages for missing (or unrecognized) firewalls and antivirus software. There’s also a toggle for nag messages in case you choose not to use WinXP’s Automatic Updates feature (see the next section). Uncheck the problem item’s checkbox and then click OK.

It’s a good idea to disable the Windows Firewall after you install a better utility (see the Beyond Security Center sidebar). Under Manage Security Settings For, click the Windows Firewall link. Select the Off (Not Recommended) button and then click OK.

This Windows Firewall settings panel is also the place to adjust its behavior, if you decide to use it. Like most firewall software, Microsoft’s free offering will occasionally ask you whether it’s OK to allow a new program to access the Web. However, if it doesn’t, or if you answer incorrectly, Windows Firewall may keep the application from working as it should. Click the Exceptions tab to find a list of programs and services. If a program’s box isn’t checked, Windows Firewall is blocking it. Checkmark the affected program’s checkbox and click OK. Advanced users can use the Add Port, Add Program, and Edit buttons, plus the Advanced tab’s settings, to address specific needs.

Other Settings

Automatic Updates is a fairly crucial Windows feature, so click the link for it under Manage Security Settings For. By default, the Security Center will direct

Automatic Updates to download and install updates from Microsoft on its own. This can become a hassle if a major update commences just before you want to turn off your PC, so schedule a more convenient day and time under the Automatic (Recommended) button.

On the other hand, occasionally a Windows Update can cause problems for users with specific software or hardware, so you may want to delay its installation until there’s a fix. If you select Download Updates For Me, But Let Me Choose When To Install Them and click OK, the next time updates are available you’ll see an icon in the system tray. Click it and then follow the directions to allow the installation (the Custom option lets you preview the updates before they install). The disadvantage to this approach is that it could delay your PC’s protection after a security patch becomes available.

Finally, the Internet Options link lets you adjust Internet Explorer’s security settings. Other links in the Security Center lead to further information, as well as to Microsoft Tech Support.

Part home base, part watchdog, WinXP’s Security Center can help you ensure that your PC is protected from malware and other threats—assuming, of course, that you already have security software in place. ■

BY MARTY SEMS



You may be running third-party security software, but if WinXP doesn’t recognize it, the Security Center will generate pop-up messages about it. Click Change The Way Security Center Alerts Me to disable the nagging.

Beyond Security Center

If you run Windows, you need third-party security software. Even if Microsoft’s Windows Live OneCare had a great reputation, you might still feel funny paying the company extra for protection it didn’t build into its OS in the first place. Many third-party offerings come in comprehensive suites, and usually with free trials.

Antivirus/antispyspyware.

Trend Micro (www.trendmicro.com), Kaspersky (www.kaspersky.com), and ESET (www.eset.com) are key names in the for-pay anti-malware field. Norton (www.symantec.com) is a

very effective choice, too, and may become easier to recommend if Symantec can continue to speed it up.

On the freebie side, Avast! (www.avast.com) provides antivirus, anti-spyware, and antirootkit protection without the sluggishness of AVG 8 (free.avg.com).

Firewall. Outbound data filtering, easy configuration, and effectiveness against many threats are the chief reasons to install third-party firewall software. You can pay for a firewall with extra features a sturdy antivirus utility

already may give you, but several free editions probably can cover your needs. Try Online Armor (www.tallemu.com), Comodo (www.comodo.com), or ZoneAlarm (www.zonealarm.com).

Router. You may have no need for networking equipment if you only own one PC. However, it’s safer to use a router with NAT (Network Address Translation) between your computer and your cable or DSL modem, because NAT acts as a supplemental firewall that doesn’t slow down your PC. ■



Windows Vista

Media Center Is Your Hub For Entertainment & More

As Microsoft succinctly states, “When used to its fullest, Windows Media Center turns your computer into a powerful home entertainment hub.” Featuring a smooth-transitioning interface that’s navigable by mouse, keyboard, and remote control, Media Center not only puts the digital music, video, and photos stored on your PC at the forefront, it offers access to live and Web-based TV, Internet radio, sports scores, and more. The better news for Windows Vista Home Premium and Vista Ultimate owners is that Media Center is included in those operating systems. (A previous version is also available in Windows XP Media Center Edition.)

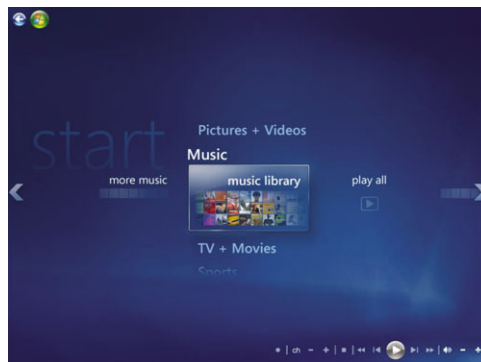
Using Media Center to its “fullest” means having a broadband Internet connection and TV tuner installed in your PC to program, watch, and record live TV (see “Make Your PC A DVR”). It also means using a Media Center-compatible extender to share the multimedia on a PC among other appliances in the house, such as an HDTV and surround-sound speaker system in a living room. (Subscribers can read up on Media Center extenders in the expanded version of this article available at www.smartcomputing.com.) Still, without a tuner or extender, Media Center has plenty to keep you entertained. The following is a tour of Media Center’s notable features.

Cue Up Media Center

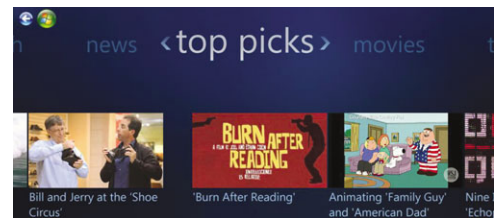
In Vista Home Premium or Ultimate, open Media Center by clicking Start, All Programs, and Windows Media Center or click Start, type **Windows Media Center** in the Start Search field, and click Windows Media Center. Upon opening, Media

Center automatically gathers the multimedia files on your PC and then walks you through a setup routine to configure display, speaker, and media settings. You can change these settings at any time by selecting Tasks from

Media Center’s main menu and clicking Settings, General, Windows Media Center Setup, and Run Setup Again. Other options in the General area include Startup And



Windows Media Center uses a well-designed interface to guide users through options available from animated horizontal and vertical scroll bars.



Media Center’s Internet TV feature is still in beta but offers scores of video content within News, Top Picks, Movies, Music, Viral, Lifestyles, Sports, and Tech categories.

Windows Behavior, Visual And Sound Effects, Parental Controls, Automatic Download Options, and Optimization. In Startup And Windows Behavior, for example, you can set Media Center to open when Windows boots.

Besides Tasks, Media Center’s other main menu options include Pictures + Video, Music, TV + Movies, Sports, and Online Media all organized in a vertical, scrollable row. Each area contains related options which are scrollable horizontally. Selecting Music, for example, reveals options for More Music, Play All, Radio, and Search. A Back button and green Windows Media Center button for returning to the main menu at any time are also available. Elsewhere, standard multimedia controls (Volume, Pause/Play, Forward, etc.) reside at the window’s lower right. The following highlights each of Media Center’s main functions:

Pictures + Video. This section gives you Picture Library, Video Library, and Play All options. Clicking Picture Library or Video Library displays the photos or videos on your PC in folders you can organize by folder, tags, and date. Picture Library also has a Play Slide Show option you can customize from Tasks. Right-clicking a folder brings up Burn and Settings options while clicking a photo presents a Picture Details option. Picture Details contains basic

photo-editing tools, as well as Print, Delete, Next, and Previous options.

Music. Here, you'll find More Music, Music Library, Play All, Radio (requires an optional FM tuner), and Search options. In Music Library, you can view audio tracks by Albums, Artists, Genres, Songs, Playlists, Composers, Years, and Album Artists. Each option displays an album cover; number of tracks; album length; and (when you right-click the album) options to burn, edit, and add tracks to a queue. More Music, meanwhile, links to Web-based audio sources such as XM Satellite, Napster, Live365.com, and NPR.

TV + Movies. Arguably the heart of Media Center, TV + Movies is built to watch, record, and pause live TV, including HD content. You'll need a TV tuner in your computer, but a basic EPG (electronic programming guide) is included to find programs and schedule recordings, which display in Recorded TV with a thumbnail image, title, description, date, and runtime. Without a TV tuner, you can still browse Internet TV, a beta feature that offers music concerts, movie trailers, viral videos, lifestyle features, travel news, instructional videos, and more from MSN Video in News, Tech, Sports, Lifestyles, Viral, Music, TV, and Movies subcategories. Other highlights include picture-in-picture ability, streaming video to up to five rooms, and burning recordings to DVD from within TV + Movies.

Sports. Besides watching sporting events and recording upcoming contests, Sports offers scores and stats from Major League Baseball, National Football League, NCAA, Major League Soccer, and other organizations. Click a listed MLB game, for example, and Media Center displays the start time, key players, preview, recap, stats, injuries, and other related information acquired from Fox Sports. Clicking the Players option, meanwhile, conveniently tracks individual player stats—ideal for fantasy sports fans.

Online Media. If you're lacking a TV tuner, Online Media is a haven for Web-based media. The section's Explore option alone is stuffed with programs organized in Showcase, TV + Movies, Music + Radio, and News + Sports subcategories. In TV + Movies, you'll

find continually updated free and paid options for movies and programs from Showtime, Fox Sports, Home Shopping Network, Cinemanow, Discovery Channel, TVTonic, and Movielink.

Tasks. Expectedly, Tasks is where you'll access, configure, and tweak Media Center's performance settings within General, TV, Pictures, Music, DVD, Extender, and Library Setup categories. (You'll find these options under Settings.) In TV, for example, Media Center will walk you through setting up a TV signal, help configure TV or monitor settings, enable closed captioning, and more. Additionally, Tasks includes Shutdown, Burn CD/DVD, Add Extender, and Sync options.

The screenshot shows the 'Players' section of Windows Media Center's Sports interface. It displays a table of statistics for the Pittsburgh Pirates. The table has columns for Player Name, Games Played (G), At Bats (AB), Runs (R), Hits (H), Runs Batted In (RBI), Home Runs (HR), and Average (AVG). The players listed are P. Frazier, R. Frazier, T. Glavin, D. Jeter, and B. McCann.

Player	G	AB	R	H	RBI	HR	AVG
P. Frazier	523	75	137	84	28	3	.262
R. Frazier	134	34	49	16	5	8	.266
T. Glavin	502	64	135	89	23	0	.269
D. Jeter	554	81	164	67	10	10	.296
B. McCann	461	62	135	80	23	5	.293

If you're a fantasy sports nut, you'll love that Windows Media Center's Sports section has the ability to track the stats of individual players in several leagues.

Whether scheduling a week's worth of recordings you'll burn to DVD, kicking back in Media Center's SportsLounge, or tuning in to a Big Band station via Internet radio, Windows Media Center has you covered. ■

BY BLAINE FLAMIG

Make Your PC A DVR

With Windows Media Center installed, you're only a TV signal and TV tuner away from turning your computer into a DVR (digital video recorder) you can schedule, record, play, and pause live TV with. A cable, satellite, or antenna TV feed will cover the TV signal requirement. As for a TV tuner to capture that signal, choices include

internal PCI (Peripheral Component Interconnect) and PCI-E (PCI Express) cards and external USB and FireWire devices, including "sticks" resembling USB thumb drives that are especially handy for laptop use. Makers of TV tuners include ADS (www.adstech.com), AMD (www.amd.com), AverMedia (www.avermedia-usa.com), Hauppauge

(www.hauppauge.com), Pexlor (www.pexlor.com), and Pinnacle (www.pinnaclesys.com) with tuner prices ranging from about \$55 to \$200 or more depending on how many tuners the card integrates, TV connection types supported, whether programming guide and remote are included, and if HD capabilities are supported. ■



Blu-ray

The Next Format

a single-layer disc or up to 50GB on a dual-layer disc. Its rival at the time, HD DVD (high-definition digital versatile disc), could hold 15GB and 30GB, respectively. Both formats used blue-violet laser with a 405nm (nanometer) wavelength, finer than DVD's 650nm red laser; they could store denser data patterns on discs the same physical size as CDs and DVDs.

BD and HD DVD had ample room for high-definition video and audio, but neither was a clear successor to DVD because of industry disagreement. Some movie studios and hardware manufacturers backed BD; others aligned with HD DVD. Mainstream users, by and large, waited for a winner to emerge. This happened in February of this year, when HD DVD's primary backer, Toshiba, announced that it was ending its support of the format.

The BD Experience

Blu-ray Disc movies provide an extremely sharp picture on 720p, 1080i, and 1080p HDTVs (the "i" and "p" indicate video that is **interlaced** [displayed as quickly alternating half-frames] or **progressively scanned** [displayed as whole frames]). Many BDs also feature new audio formats, such as Dolby Digital-Plus and Dolby TrueHD, which

improve upon the Dolby Digital and DTS formats common to DVD.

To watch Blu-ray in all its glory, connect a BD player to a high-quality, 1080p HDTV using an HDMI (High-Definition Multimedia Interface) cable. HDMI will also provide the best connection when sending audio to a compatible receiver in a surround-sound system. Of course, most players allow connection to legacy equipment, too. You can watch BD on 720p HDTV or even standard definition TVs, use inferior cables such as component video or S-Video, and route its audio over common RCA stereo cables. Some setups will look and sound much better than others, of course.

You can't play a BD in a DVD player. However, most BD players are backward compatible with DVDs and can upconvert their video to HDTV resolutions. Many BD players also can play CDs, and a few even play HD DVDs. Blu-ray movies cost more than DVDs, although some older and special interest titles sell for less than \$10.

Many recent BD movies feature menus you can access without disrupting the playback of the movie. Also, with a recent BD player or a Sony PlayStation 3, you might have access to additional new features. A player with support for Bonus View (BD Profile 1.1) offers picture-in-picture, for example. Meanwhile, BD Live (Profile 2.0) lets you connect your player to the Internet to unlock downloadable content with a growing list of compatible movie discs. You probably won't be able to add Profile 1.1 or 2.0 support to a standalone player unless it's very new, but you can do so to a PlayStation 3 by installing the latest firmware update.

We'll always have a spot in our hearts for DVD. Since its introduction in 1997, the optical disc format has dazzled us with movies and wowed us with cheap data storage.

And then came HDTV (high-definition TV). These new widescreens came with higher resolutions (pixel counts) than DVD video (720 horizontal pixels x 480 vertical), which was made to fit old-style TVs. DVDs didn't look as sharp when scaled up to fit new HDTVs with 720 (1,280 x 720) or 1080 (1,920 x 1,080) resolutions.

Movie studios could digitally capture video from film sources in higher definitions, of course, but the problem was that DVD couldn't store enough high-def data for a feature-length movie. At the same time, movie studios and associations wanted tougher copy-prevention mechanisms than DVD offered. The ability to include higher fidelity audio would be a plus.

It was time for a new disc format. Instead, we got two.

The Format War

Introduced in mid-2006, BD (Blu-ray Disc) could store up to 25GB of data on

Consumers Not Yet Feeling Blu

A recent Harris Interactive poll of the devices U.S. consumers own shows that BD-playing devices, such as standalone players and the PlayStation 3 game console, have a long way to go to unseat DVD.

87%	DVD player connected to a TV	35%	HDTV
5%	Sony PlayStation 3	4%	Blu-ray Disc player



Prices of blank BD-R (recordable) and BD-RE (rewriteable) media are still high, but should fall in the next year or two.

Comparison To DVD

DVD looks fine on a standard TV but terrible on an HDTV unless you use an upconverting player. The good news is that the latter makes all the difference.

Realistically, with a good upconverting processor, such as the Faroudja DCDi, Anchor Bay VRS, or Silicon Optix Reon-VX HQV, the difference between high-def and DVD is very subtle. Many consumers sitting at a normal

viewing distance from a high-quality HDTV can't tell them apart.

If you know what to look for, however, you can detect the difference in fine details, such as the silk brocade of a dancer in the opening ceremonies of the Beijing Olympics. Wide shots of meadows, the sky, and desert sand may appear blocky more often in DVD, although we've seen this in BD, too. A side-by-side comparison of BD and upconverted DVD also will show you the high-def format's minutely sharper detail, all else being equal (the same brand and model of HDTV with the same picture settings).

One "comparison" that shouldn't influence your buying decision is the "pause test." Pause a BD movie, and the image on-screen will look as sharp as ever, like the 2MP digital photo it is. If you pause an upconverted DVD, it will look very jagged. Press Play again, and the DVD video will look just fine. The reason is that upconverting players spread each pixel of a DVD's video over several pixels on an HDTV screen in real time. When you pause the video, you'll see the DVD source video as it looks without the on-the-fly upconversion processing.

A Blu Outlook

DVD is still king for now, and by a large margin. As the "Consumers Not Yet Feeling Blu" chart shows, roughly 10

Blu-ray In Computers

CD drives really shook up personal computing. Still, it took years for recordable and rewriteable CD and DVD formats to become ubiquitous and cheap.

The same popularity might befall BD if its prices fall significantly, but there are a few factors against it. For one thing, fast hard drives have become inexpensive enough per gigabyte and spacious enough to become the best choice for data backup.

Also, DVD hasn't overthrown CD as the most popular physical method of software distribution. When you buy an antivirus or other program from a retail store, chances are that the disc inside the box will be a CD-ROM. With the exceptions of games and office suites, one or more 700MB CDs are plenty big. For now, there's simply no need to distribute software on a 25GB or 50GB BD, as even multiple DVDs

cost less than a single Blu-ray Disc. More to the point, fast Internet connections have made it more convenient for users to buy and download software online.

Still, it's pretty cool to be able to move up to 50GB to a single, blue-laser disc. The recordable type of BD is called BD-R (\$8 and up). Like a CD-R, DVD-R, or DVD+R, you can write data to a BD-R until it's full, but you can't erase and reuse the disc. The slower, rewriteable version of BD is BD-RE (\$13 and up). You can erase and rerecord a BD-RE as you can a CD-RW (rewriteable), DVD-RW, or DVD+RW.

Most BD-ROM drives (\$130 and up) can read CDs and DVDs as well as BDs. Likewise, most BD burners (\$250 and up) can read and write BD-R, BD-RE, and recordable and rewriteable CDs and DVDs.

BD media should store data without loss about as long as DVD, according to Verbatim

spokesman Andy Marken. Under certain conditions (a clean disc in a jewel case away from sunlight, heat, and humidity), Verbatim says that its AZO dye-based DVD+/-Rs should last 100 years; its DVD+RWs, 50 years.

Obviously, the problem for BD right now is its high price. Blank DVDs cost less than 20 cents per disc (four cents per GB) in bulk. An \$8, 25GB BD-R costs 32 cents per GB.

Of course, CD and DVD media were similarly expensive until their respective technologies caught on. If BD is expanding its presence in the market as recent data indicates, the economies of scale will cause media and drive prices to fall.

Movie playback. For now, the main use for BD on a PC is high-definition movie disc playback. You'll need a Blu-ray drive and BD-compatible player software, of course, as well as a moderately fast system (consider a dual-core processor the bare minimum).

Contrary to reports, you don't technically need a special monitor or graphics card to watch a BD movie at a lower level of picture quality. A run-of-the-mill monitor and a graphics card older than two years or so might allow you to watch a BD over an analog VGA (Video Graphics Array) cable (which can be adapted to or from an analog DVI [Digital Visual Interface] connector at either end). You may need to install the latest drivers for your video card to enable support for Blu-ray's AACS (Advanced Access Content System) copy prevention technology.

On the other hand, if you want to see the crisp digital image that makes BD superior to DVD, you'll need a monitor and a graphics card that support HDCP (high-bandwidth digital content protection). For best results, buy an HDCP-compliant widescreen display with a 1,920 x 1,200 native resolution, which is close to 1080p BD (1,920 x 1,080). ■

times more households have DVD than BD, according to a Harris Interactive survey. And only about 9% of U.S. consumers who don't currently own a BD player plan to buy one within a year.

However, BD sales are increasing, partly because BD won the format war. Last year, according to the Entertainment Merchants Association, high-def sales totaled nearly 9 million BDs and HD DVDs at more than \$260 million. In the first half of this year, according to Hollywood Reporter, U.S. shoppers spent \$194 million on BD, a huge jump over the \$43 million they spent on both Blu-ray and HD DVD in the same time period in 2007. Futuresource predicts U.S. consumers will buy nearly 45 million BDs before the year is out, an increase of more than 400% over last year.

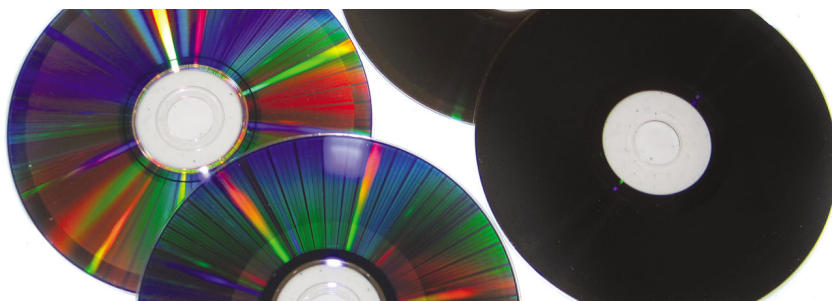
"Much of the drive behind this increase is coming from growing consumer awareness and falling hardware prices, coupled with PS3 owners increasingly using their consoles for video playback," says Jack Wetherill of Futuresource. In fact, as the firm shows in the "DVD & BD Hardware Development: USA" chart, BD's installed base has grown faster than DVDs did early on.

"There is a much broader range of video playback platforms available for BD than there was for... DVD, with dedicated players, the PS3 console and BD-capable PC drives available from launch," adds Futuresource's Michael Boreham.

Strategy Analytics says that by the end of this year, 68% of BD-capable devices will be game consoles (Sony's PlayStation 3). A 21% minority will be standalone BD players, while personal computers will constitute 11% of devices supporting BD. By the end of this year, the firm says, Blu-ray could spread to 29.4 million households worldwide.

However, BD isn't expected to top DVD in U.S. sales for another four years, according to Futuresource and the EMA. By 2012, up to 61% of the movie disc market could belong to Blu-ray, Futuresource says—especially if prices continue to fall.

Wetherill says, "I would be amazed if we don't see a Blu-ray player in the



A BD's dark underbelly (right) requires a special protective coating. Left untreated, BD would be more vulnerable to scratches and fingerprints than DVD (left).

U.S. at or below \$250 by the end of this year, and in order to stimulate consumer traffic in the holiday season, who's to say there won't be a product at closer to \$200?"

On the other hand, Panasonic's Blu-ray Disc Group General Manager Eisuke Tsuyuzaki recently said that BD players already are selling briskly at existing prices. In an interview with Home Media, Tsuyuzaki said, "What you are seeing already is that at \$399, we can't make enough Blu-ray players."

Is It Time To Buy?

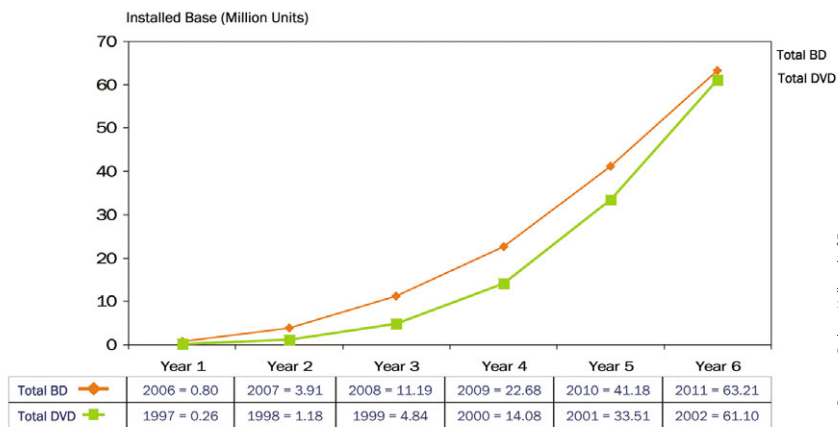
Now that the HD DVD/BD format war is settled with Blu-ray the victor, there's no more ambiguity as to which high-def format you should buy.

Assuming the depressed dollar doesn't spoil the party, this holiday shopping season should offer some deals on BD players, which currently sell for approximately \$280 and up. A BD player is certainly the more future-proof option compared to an upconverting DVD player (which admittedly start at \$50).

Before you buy a BD player, ensure that it supports BD Live and HDMI version 1.3. Also, the more high-end audio formats it supports, the better. Some decks can't decode certain high-def formats, although they might be able to export the encoded audio to a high-end audio receiver over an HDMI 1.3 cable. Others may support only stereo playback of top audio formats. ■

BY MARTY SEMS

DVD & BD Hardware* Development: USA



*Hardware refers to home video players and compatible games consoles, it does not include PCs

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Short & Simple Tips To Make Things Easier

Endless Potential For Your Web Cam

Your Web cam can be used for tasks besides putting your mug on the screen. When you need to look inside small, difficult places, such as duct-work or behind hard-to-move appliances, a



Web cam and a light can make for a quick and easy inspection. Use a light and a Web cam to look for leaks behind that deep kitchen sink. Inspect the heat exchangers of gas furnaces or

hard-to-see areas of your car's engine. The list quickly becomes endless. Of course, a wireless Web cam can make inspections simpler.

Mark B., Aberdeen, S.D.

Find Your Computer's Platform

In the "News From The Help Desk" article that ran in the August 2008 issue of *Smart Computing*, the second answer gives instructions to find what platform your computer is based on. It suggests you click Start, Control Panel, and Performance And Maintenance. Click System and then click the General tab when the window appears.

Why not keep it simple and press the Windows logo key on the keyboard and then press the PAUSE/BREAK key? It will produce the same results and eliminates extra steps.

Robert W., Kingston, N.Y.

Block Those Pop-Up Ads

In a past issue, you printed a tip about using a Google or Yahoo! toolbar that has a pop-up blocker. However, this means you give up screen space and tolerate the other negatives of a toolbar from an advertising-focused entity. The NoAds pop-up blocker from South Bay Software (free; www.southbaypc.com/noads) has been my

pop-up blocker for years and has all of the configuration options that you could want.

Gordon C., Mineral, Va.

How Fast Is Your Connection?

Here's a little site to check your Internet speed connection: www.speakeasy.net/speedtest. It's easy to use and free to test, so have fun.

Pierre M., Sorel-Tracy, Quebec

Take Some Of The Headache Out Of An OS Reformat

Over time, you can accumulate a lot of programs and applications on your PC, and for one reason or another, there will probably come a time when you will have to reformat and reinstall your OS (operating system). And reinstalling all of your applications after a full OS reinstall can be a really time-consuming headache, especially if you have to find all of the original discs or find the Web site for the application download.

What makes it a lot easier for me is that whenever I download and install a new application from the Internet, I save the installation .EXE (executable) in a folder with a name like Program Installers on a hard drive other than the one my OS is installed on. That way, when I do the reinstall, all of my installation .EXE files remain intact and ready to execute with a simple click of the mouse after my new installation. Also, you will most likely have the latest version of the applications when you reinstall them. Just remember to have your serial numbers saved for the applications that require them.



Daniel C., Beaverton, Ore.

DIY Project

Move Programs & Settings To A New PC

So you bought a new computer. It's faster than your old one and has a newer operating system. But now you have a slight problem: Your old computer has all your files and applications on it, and you've spent years tweaking every program setting to be just right. It's like a big easy chair that you've broken in over the years so that it fits you perfectly.

It's one thing to copy all your files and move them over to the new computer but quite another to reinstall all your applications, complete with the settings just the way you like them. With migration software, moving everything from your old computer—files, applications, and settings—is like porting your broken-in cushions to a brand-new easy chair.

There are several available options for migration software, but we decided to demonstrate how it's done with Laplink's PCmover (\$59.95; www.laplink.com).

The Setup

You'll need to install Laplink PCmover on two computers: the old computer that has your files, folders, applications, and settings, as well as the new computer. Note that the new computer should already have an operating system installed. And not to worry—when you migrate all your data to the new computer, you won't be overwriting your new operating system nor will you be damaging any of the features of your new system. PCmover compares the applications, files, folders,



If you choose to migrate data with removable media, you can put everything on an external hard drive or break it up into chunks and use CDs, DVDs, or flash drives.

and settings of both computers and moves only what is necessary.

What Can & Can't PCmover Do?

PCmover enables you to migrate data for a variety of different computer-to-computer configurations. You can migrate data from a PC to a Mac computer—as long as the Mac has a Windows OS (operating system) available via a program such as Parallels Desktop or Boot Camp. Furthermore, you can transfer data on the same computer between two bootable partitions or from one hard drive to another.

You can move from an older operating system to a newer one (such as from Windows XP to Windows Vista), but not the other way around—doing so can cause unpredictable system problems.

Another issue stems from 64-bit systems. PCmover supports migrating from one 32-bit system to another, as well as from a 32-bit system to a 64-bit

system. However, you can't do so between two 64-bit systems nor from a 64-bit system to a 32-bit system.

Be aware that files with DRM (digital rights management) protection, such as music downloads, and key- or serial number-activated programs may need to be reactivated after you move them. Security programs, such as antivirus software, will not be moved, and some hardware drivers may not make the migration trip, either.

Finally, Laplink suggests to temporarily disable your security software, including firewalls and antivirus programs, before migration, as they could interfere with the process. Just don't forget to re-enable them when you're done.

Installation

Insert the PCmover disc into the new computer and click OK if prompted to install requirements. When the wizard starts, click Next. Accept the license

agreement and click Next. On the next page, click Print to print a copy of the information listed, click Yes to accept the information, and click Next. Enter a username, organization, and country, and click Next, click Next again, and click Install. When the wizard completes the installation, click Finish.

Run Laplink PCmover and click Check For Updates if you want to be sure you have the latest version of the software. Click Next to advance to the next screen. Select the I Have Read And Understand This Message checkbox and click Next. On the next screen, you'll be asked if the computer you're working on is the old computer (the one you will export data *from*) or the new computer (where you will import data *to*). You should be on the new computer. Make that selection and click Next.

Perform the same steps to install and run PCmover on your old computer, but when you get to the screen where you choose which computer you're working on, select Old Computer.

There are three ways to transfer your data: over a LAN (local-area network), with some type of file storage (such as CDs, DVDs, flash drives, or external hard drives), or via USB cable.

Migration Via Removable Media

Select Using A File Storage Device on the Method Of Migration screen, click Next, and then click Next again. Be sure the Migrate Using A Snapshot radio button is selected, choose a location to save the snapshot, and click Next twice. The new computer will create a snapshot of itself. Navigate to the snapshot and save it onto removable media, such as a flash drive. When presented with the Go To Old Computer screen, do *not* click Next. At this time, you will remove the media from the new computer and take it to your old computer where you will create the Moving Van, which is the file that contains all the migration data.

On the old computer, select the same method of migration (in this case, Using A File Storage Device) as you selected on

the new computer. Click Next and click Browse to locate the snapshot on the flash drive or CD you brought over from the new computer. Select the snapshot and click Open. In the PCmover window, click Next two times. The old computer will now compare the snapshot of the new computer to itself to determine what data needs to be transferred. Click Next and select which user accounts to migrate



There are three ways you can migrate data from one computer to another with PCmover: via a LAN (local-area network), removable storage media, or over a special USB cable.



You'll be prompted to make sure you are migrating data in the right direction.

to the new computer. (Hint: Unless you want to move settings for multiple users, just select Administrator.) Click Next, make sure the migration will occur between the correct drives, and click Next again. Select all the folders you wish to migrate and click Next.

On the subsequent screen, you can decide if you want to exclude any certain file types from this migration. If you don't

want to exclude any, select the Do Not Exclude Any File Types radio button. On the next screen, select which applications you want to include and click Next. Click Next twice and wait for the old computer to make a Moving Journal, which is what will be used to create the Moving Van.

Once that process is complete, you'll be given a summary of how many files and settings are being transferred, as well as the total amount of data being transferred. Whatever the total number is, PCmover will compress it by about half for the move. At this juncture, you need to ascertain what type of media you'll be using to move the data. Note that you'll likely have several gigabytes of data to transfer, which will require at the very least a small external hard drive, a huge flash drive, or a stack of CDs or DVDs.

Whatever you decide, click Next. Name the Moving Van, click Browse to select a location to save it (you should save it to your removable media), and click Next again. On this screen, you can opt to break the Moving Van down into smaller sections; this is so you can spread the data out over multiple CDs, DVDs, or flash drives if need be. If you don't need to break it down into more bite-sized chunks, simply click Next, and click Next again. PCmover will then fill the Moving Van. This process could take quite awhile, depending on how much data there is to transfer.

When the migration is complete, click Next and then click Finish. Now you need to remove whatever media you used to save the migration data and connect it or insert it into the new computer. You should still have the Go To Old Computer screen up on the new computer; click Next once you've added your storage media. Browse for the Moving Van and select it. (You may have to do this several times.) Click Next twice and wait for the new computer to unload the Moving Van. You'll begin to see your old files appear on your new Desktop. When the Moving Van is unpacked, click Finish. Your computer will automatically restart.

One welcome feature is called StartUp This, which will pop up when the new

computer reboots. Click StartUp This to edit which programs are allowed to automatically run when the computer starts. PCmover knows that there may have been some startup programs on the old computer that you would prefer didn't run automatically, and this feature enables you to manage them.

Migration Via Network

To perform a migration via your LAN, both computers must be connected to the same network. The process begins the same as outlined above, but when you get to the Method Of Migration screen, select Over A Network and click Next. When prompted at the Ready To Start Screen, click Next. Run PCmover on the old computer and select Over A Network. On the Identify New Computer page, click Browse and select the new computer to which you will migrate the data. Click OK to close the window, click Next, and click Next again.

On the new computer, run PCmover and navigate to the Method Of Migration page. Select Over A Network, click Next, and click Next again. When prompted with the Ready To Start page, click Next to start the migration.

If prompted by the new computer, you can customize the migration as before. To advance past this screen, click Next. Select which user you want to

correspond the migration with and click Next. On the following screen, make sure you're about to migrate to the correct drive and click Next. On the next screen, deselect any folders you don't want to migrate and click Next. Choose to include or exclude any specific file types and click Next, then click Next again. When the migration is complete, you can place a check mark next to all the applications you want to transfer and click Next and then click Next again.

When the Moving Journal finishes, click Next to make the transfer and click Next again. Now, the Moving Van will transfer all the data from the old computer to the new computer. Depending on the amount of data being transferred, this step could take awhile. You can check the Elapsed Time Remaining information bar to see how much longer the transfer will take.

When the transfer is complete, click Finish on the new computer. On the old computer, click Next and then click Finish.

Migration Via USB Cable

You can also migrate data via USB cable; however, not just any USB cable will do. Connecting two computers with a regular USB cable could cause a tremendous amount of damage to both machines. You must use a special USB cable, such as the one Laplink

provides with PCmover software. The difference between a regular cable and the special Laplink cable is that the latter has a chipset in the middle.

Plug the USB cable into both computers and launch PCmover on the new computer. After you check for and install any updates, click Next twice and then select New Computer. When you reach the Method Of Migration screen, select Over USB Cable and click Next, then click Next again. When the Ready To Start – USB Transfer window appears, click Next to start the transfer.

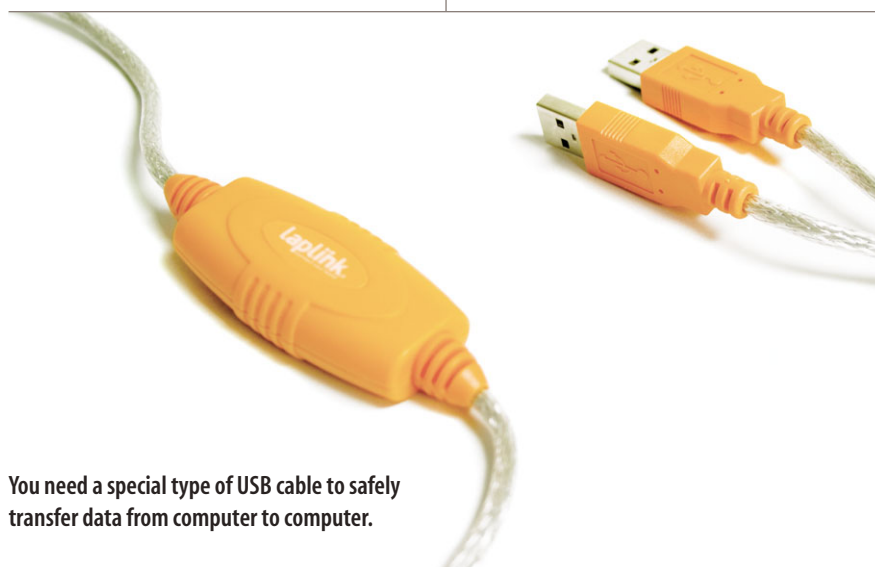
Now, run PCmover on the old computer. Follow the same process as you did on the new PC but select Old Computer. In the Method Of Migration window, select Over USB Cable. Click Next twice to proceed. When the snapshot is loaded, select any Custom Migration settings you wish and click Next. Select which user accounts to migrate, click Next, select the location of the sending and receiving drives, and click Next again. Deselect any folders that you don't want to migrate, click Next; determine if there are any file types you want to exclude and click Next again. Click Next once more to proceed. When the Application List window appears, select which applications you want to transfer and click Next twice. This starts the Moving Journal.

When the Ready To Start – Transfer Moving Van appears, click Next twice and wait. When that step is complete, click Next and then click Finish. Click Finish on the new computer, as well; it will automatically reboot and then the transfer is complete.

Shortcut To Glory

Once you've migrated your data to the new computer, you'll be surprised at how convenient it is to use it. We've grown accustomed to losing all our favorite settings customizations we forgot about when we changed computers. With a tool like PCmover, those days are over. ■

BY SETH COLANER



You need a special type of USB cable to safely transfer data from computer to computer.



Portable Scanning For Macs

Admittedly, this is probably not the most rigorous testing method, but I tend to judge a product based on the instruction manual that comes with it—the thinner the better.

The ScanSnap S300M comes with an alarmingly thick instruction manual (nearly half an inch!), which for me is usually an indication that I'm in possession of a product that may be too complicated to enjoy. However, in this case, the manual's thickness indicates only that people of many tongues other than English (seven, to be exact) also want to purchase this scanner. (The English instructions take up only 37 pages.)

Simple, Just The Way I Like It

I was pleasantly surprised to find that I didn't really need the instructions at all, which always further endears a product to my heart. You just install the software from the included CD and connect two USB cables (one for power, one for data) to your computer. After that, all you need to do is slap a document you wish to scan in the tray and hit the big button that says "Scan." Then you just follow the on-screen prompts and save the scanned document to the desired location.

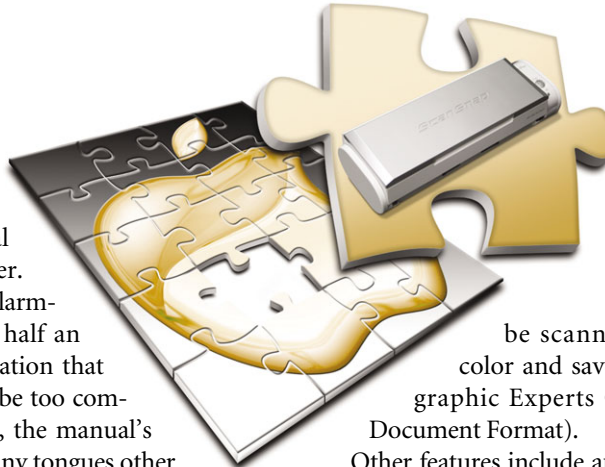
Once you scan a document, you have some options: You can choose to scan to a folder, to email, to print, or to iPhoto. Just follow the on-screen instructions for whichever option you choose, and you'll be set in seconds.

You can also select the quality of the scan, from Normal (150 dpi [dots per inch]) to Excellent (600 dpi). A lower setting will enable a faster scan, but if you want a crystalline image, go with the Excellent setting.

Specs & Such

OK, here are the details: The ScanSnap S300M can perform double-sided color scanning with a single pass at a resolution of up to 600 dpi.

The Fujitsu ScanSnap S300M is a tiny scanner that offers impressive quality.



Product Info

ScanSnap S300M

\$295

Fujitsu

(888) 385-4878

www.fujitsu.com

On lower-quality settings, it can whip out a total of eight double-sided pages per minute, whether the documents are legal size or as small as 2 x 2 inches. Documents can

be scanned in black and white or color and saved as a JPEG (Joint Photographic Experts Group) or PDF (Portable Document Format).

Other features include automatic color detection (to tell if a document should be scanned as black and white or color), automatic blank page detection to save file space, and automatic page orientation and de-skew so even a slightly off-kilter scan renders a straight image. Included in the box is Cardiris 3.6 Business Card software, which is designed to transform business cards into editable information that can be exported to other programs.

Of course, the most important aspect of a scanner is the quality of the image it produces. All around, the color reproduction was solid. On a lower-quality setting, scans looked decent; they were certainly readable, and because of the lower resolution, they took up less room on a hard drive. At the highest quality, the scans were crisp and clean—good for any scanner but impressive for a portable one.

Portability

The ScanSnap can be powered either by a power adapter or a USB cable; I said "nay" to the tyranny of being tied to an outlet and opted for the latter. I loved being able to run the ScanSnap via USB—who wants to try to find an outlet when you're in a coffee shop working on your MacBook? Of course, as nice as it is to power the ScanSnap with a USB cable, it's a bit ungainly to have two long cables cluttering up the table, couch, or other surface you're trying to work on.

At just over 3 pounds and with dimensions of 3 x 11.2 x 3.7 inches (HxWxD), the ScanSnap is definitely portable. Granted, if you want to drop it in a purse, you're out of luck, but the scanner could fit into a backpack with your computer.

Still, compared to other bulky, weighty scanners intended for a desktop environment, the ScanSnap S300M is incredibly tiny and easy to cart around. And considering the quality of the images this scanner produces, count this as one more tool in the Mac bag you don't want to be without. ■

Web Tips

Enhance Your Time Online

Price Out A Road Trip

Problem: With today's gas prices, I'm trying to stay better informed about how much my driving costs me.

Solution: Whether you are contemplating a big trip or are re-evaluating your daily commute, get the facts on how much money you're burning

Figure out just how much it costs to drive your car from one place to another.

on gas. Use Drive Pricing (www.drivepricing.com) to figure out an actual dollar figure. You'll need to know your car's MPG, but then all you have to do is enter your starting and ending location, the ZIP code where you buy your gas, and what grade of gas you use.

Hospital Finder

Problem: My family member has a medical condition.

When we are away from home, I like to know what my options are in terms of nearby hospitals.

Solution: Whatever the reason, if you want to know what hospitals are near your area, try the US Hospital Finder (www.ushospitalfinder.com). Enter a U.S. ZIP code, and this site will show you the hospitals within a 30-mile radius. You can also scroll down to see a directory of hospitals listed by state or another that lists all U.S. hospitals in alphabetical order.

Visual Web Browsing History

Problem: I look at so many sites every day that my browser history is almost unusable, because it is hard to find what I'm looking for in a long list of text—especially when I browse multiple pages on the same site.

Solution: Attention Firefox users, this tip is for another handy plug-in. After installing the free WebMynd plug-in (www.webmynd.com), Firefox begins recording snapshots of the sites you visit. Clicking the Play button in the bottom right of your browser window will call up a slideshow-like interface that allows you to sort through these site screen shots to find a previously visited site quickly. WebMynd also allows you to customize it by letting you block certain

sites and/or pages you don't want to be recorded.

Find The Right Symbol

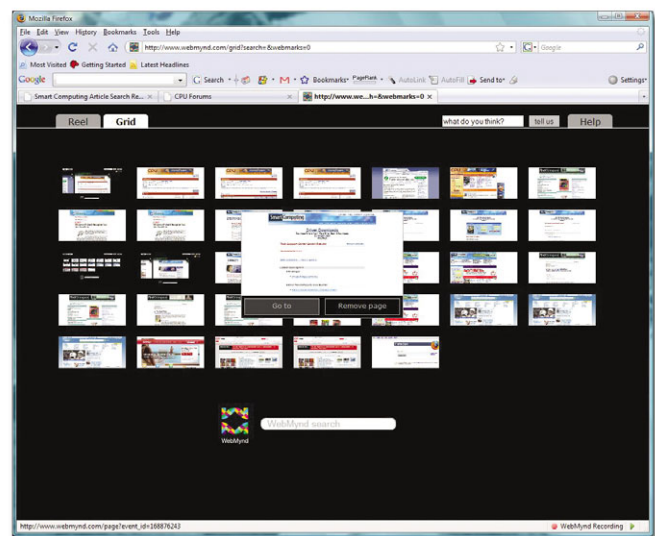
Problem: I can never remember which key to press when I need a character like the © symbol that isn't printed on my keyboard.

Solution: There are many special characters that are hard to remember. Here's a site that aims to make finding symbols a snap. CopyPaste-Character.com (www.copypastecharacter.com) is a simple Web page with more than 75 of these glyphs typed out. Just find what you want, copy it from the site, and paste it into your document. From currency symbols (£, ¥) and fractions (½, ¼, ¾) to accent (â, ö, é) and legal marks (©, ™), most everything is here. Using this site is as easy as π.

Shreddable Instant Messages

Problem: I don't want my IM (instant message) application to keep logs of my conversations on my PC.

Solution: Instant messaging is a popular communication tool. If privacy is an important issue—either because it's a personal matter or a confidential business issue—consider Bigstring (bigstring.im.com). This site offers a virtual IM window that connects to most popular messaging services—AIM, Yahoo!, MSN, and Google Talk. The difference is that once you connect to this Web-based interface, you can invite a buddy to a secure chat, which prompts him to open the same online chat window. Then anything you both type in this interface gets “shredded,” which means it will irretrievably disappear from view in intervals from five seconds to 10 minutes. (The messages also aren't on your computer.) ||



A visual display of your browser history is being billed as a “DVR for the Web.”

Compiled by Kris Glaser
Illustrated by Lindsay Anker

Visit The Wide Web Of Art

Art.com

www.art.com

It is said that we fill the space we live in, but most of us have a bare wall that has yet to be adorned. Why not decorate your empty spaces with the work of your favorite artist? At Art.com, you can browse thousands of art prints and purchase affordably priced reproductions. You can browse artwork by artist, style, or subject, such as Claude Monet, Fine Art, or Animals. You can also browse by collection, such as hand-painted art, canvas sets, and emerging artists. You can even choose custom framing for your purchase so that it will match your existing décor.

DickBlick.com

www.dickblick.com

You've been consulting with your muse and have decided to unleash your creative talents to share with the world. No matter which medium you prefer, at this Web site, you'll find all the supplies you need to create a masterpiece. The main page highlights Hot Deals Of The Week and lists the many departments that you can browse and shop. Departments consist of art supplies such as paints, drawing pencils, storage, and educational materials. You can create an account and start a Dick Blick Wishlist to help you keep track of all your artistic needs, or you can browse the Gift Ideas page to find something to motivate the artist in your life.

Artsonia

www.artsonia.com

It seems for many of us that our artistic interests originate when we are children but slip away as we grow older. Your kids and grandkids likely share that same



talent and interest, so encourage their artistic habits by visiting this site. You will find artwork by thousands of kids, and you and your child can submit artwork for others to experience and comment on. Visit the Gift Shop to have your child's work of art transformed into a one-of-a-kind gift. You can have your favorite piece of artwork made into gifts such as coffee mugs or magnets.

Drawspace.com

www.drawspace.com

If you're feeling the creative itch but don't quite know where to start, consider drawing lessons. This site has drawing lessons for beginner, intermediate, and advanced students. The lessons start with basic concepts, such as identifying positive and negative space, and move to more advanced subjects, such as techniques for drawing faces and figures. Once you become a member, you can access entire lessons to help you cultivate your drawing skills. You can also browse and comment in the Gallery, where members post their artwork for others to evaluate. The Forums are also available to discuss each assignment and receive help from other artists.

Myartspace.com

www.myartspace.com

If you're looking to join a community of artists and want to showcase your artwork, Myartspace.com is the perfect

place to meet other artists and share your creativity. Once you join, you can create a professional-looking gallery and upload your artwork. Visitors can view your work, rate it on a scale of one to 10, and leave comments. You can also search other members' galleries and communicate with them, send their work to a friend, or add it to your favorites list for future inspiration.

Olga's Gallery

www.abcgallery.com

Next summer's museum vacation is a long way off, so in the meantime, learn about famous classic artists and experience their works by visiting Olga's Gallery, which has thousands of paintings created by the masters. You can browse artists by name and read short biographies that outline their lives in conjunction to their artwork. There are also notes for several of each artist's pieces, giving you the opportunity to learn about the stories behind individual paintings. If you're not sure where to start, the main page of Olga's Gallery points you in the right direction with new gallery additions and Top 20 Artists.

Artcyclopedia

www.artcyclopedia.com

You may not have to go far to experience great works of art. At Artcyclopedia, you can search for art galleries in your state or surrounding states. To search for art galleries in your area or away, click Art Museums Worldwide on the left menu. From the map, choose your region and your location. Clicking on your state or location yields a list of museums that contain fine art collections and have a Web site that you can visit. Plan a day trip to your local museum or plan a vacation around several museum visits nationwide.

That's News To You

Finding the appropriate online group to match your interests can be a monumental task. So each month, we scour the Internet to bring you the friendliest forums and most interesting bloggers the Web has to offer. This month, we delve into the creative world of artistic expression.

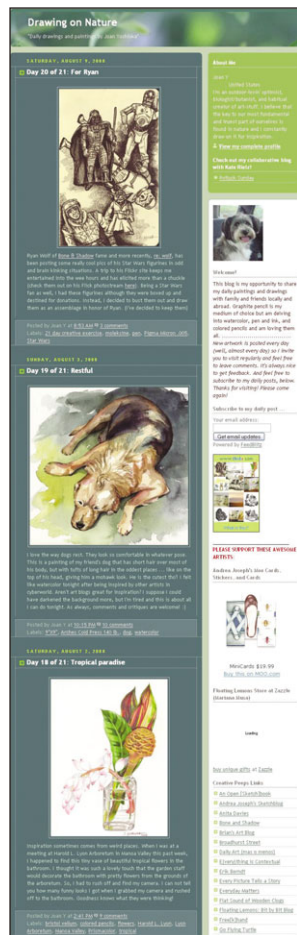
Drawing On Nature

www.drawingonnature.blogspot.com

Joan Yoshioka's blog, Drawing on Nature, is an inspiring view into the fulfilling life of creativity. The blog features hundreds of Yoshioka's drawings and paintings and serves as an example of how one can intertwine her life's passions. For Yoshioka, those passions are art and nature, apparent from the subjects she creates with graphite and colored pencils, pens, and watercolors. "I think there are a lot of people like me who feel the need to bring forth what is inside them, in a visual way," she says.

Yoshioka's blog is a wonderful example of a way to share our inner selves with the world, and it serves as an inspiration to be creative.

Yoshioka offers advice to those who might feel unmotivated or uncertain about pursuing their artistic abilities. "Draw like no one is watching," she advises. "Break the rules, and draw something, anything, every day."



Share The Wares

Some of the best apples in the online orchard are the free (or free to try) programs available for download. Each month, we feature highlights from our pickings. This month, we show you fun screen savers that emphasize some of the most famous classical art pieces, and also a program that simulates real oil painting right on your screen.

FineArtScreensavers.com

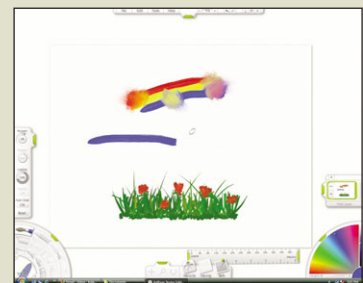
www.fineartscreensavers.com

Why settle for the default Windows logo floating around as your screen saver when you could showcase some of the greatest artwork of all time? Spark up an artistic conversation with the help of more than 30 free screen savers on this site. Choose from a miscellaneous collection of art with the 100 Great Works screen saver; enjoy the sweeping landscapes of Albert Bierstadt; the famous still-life of Paul Cézanne; or the Postimpressionist creations of Henri Matisse. To download one of the screen savers, simply click the album link, and on the resulting page, choose Download Screensaver. Save the file to your hard drive. Once the download is complete, locate the file and double-click it to start the installation. When the installation is finished, you can activate your screen saver in Windows Vista by right-clicking the Desktop and selecting Personalize. Select Screen Saver and then choose your screen saver from the drop-down list.

ArtRage 2.5

www.ambientdesign.com

Painting is a relaxing, rewarding hobby, but it can sometimes be messy and expensive. If you love painting or are looking for a new creative outlet, spend some time with ArtRage 2.5, a simulated painting program that can be used with a graphics tablet's stylus or with a regular mouse. With



The free ArtRage 2.5 demo allows you to use many of the program's tools to create realistic oil painting effects.

ArtRage 2.5, you can create a masterpiece with the same tools you would use if painting with physical materials. Tools include oil paint, spray paint, pencils, markers, knives, stencils, and more. Despite the high level of customization, ArtRage's user interface is easy-to-use for children and adults alike.

The free demo available at this Web site lets you use a good portion of the tools but not all of them. For \$25, you can download the complete ArtRage 2.5 package (for Windows and Mac) or order the ArtRage 2.5 Plus CD Edition for \$39.95, which includes an 80-page manual and video tutorials on the CD.



Financial Fitness

Stay On Top Of Your Finances With MSN Money



Money's personal financial services. These services help you stay on top of your investments portfolio and your credit card and bank accounts. They will also feed you articles and information that pertain to your unique financial situation. Here's a brief run-down of some of MSN Money's most beneficial tools and services.

Portfolio Manager, found by clicking Portfolio under the Investing tab, is an online tool that tracks your investments portfolio. This

enables you to monitor the progress of your stocks and brokerage accounts while also having access to charts and news articles that are relevant to the accounts in your portfolio. You can track the shares you buy and sell and track dividends, splits, and other transactions in order to keep tabs on the progress of your portfolio. Plus, Portfolio Manager lets you choose between predefined views so that you can see the performance, quotes, fundamentals, and holdings of your accounts; you can also customize how you view your portfolio.

MSN has developed a Web site, MSN Money (money.central.msn.com), dedicated to helping the average American taxpayer navigate through the complexities of personal finance. With sections on investments, taxes, insurance, and more, every working adult can find an article or a tool to help create a healthier financial outlook.

Get Personal

When you sign up for a free MSN account, you will have access to MSN

In addition to Portfolio Manager, there is the Quote Watchlist, a tool for beginners, and the Investment Toolbox, a more robust application for experienced investors. The Quote Watchlist offers a basic view of multiple stocks and other investments, while the Investment Toolbox features advanced charting and more complex investment tools.

Another way to personalize MSN Money is through My Money. Clicking this tab leads you to a customizable Web page where you can monitor all your financial accounts at once. You can add bank and credit card accounts, include your Portfolio Manager, and (if applicable) your Microsoft Money (www.microsoft.com/money) account information. Customize your My Money page to get relevant market updates, stock lists, news articles, charts, and columns from your favorite MSN Money commentators.

Found under the Community section, CAPS is a community of investors that help each other become better investors by rating stocks, rating each other, and blogging about investing. CAPS offers a Top Tens section that includes top ten lists of stocks, members, member trends, and more.

In addition to CAPS, the Community tab has message boards, places to sign up for RSS (Really Simple Syndication) feeds, and informational newsletters written by experts in the financial industry.

MSN Money's financial tools include everything from a credit estimator to a tax deduction calculator, and there are tools for all phases of your life. For instance, there is a mortgage calculator for when you are ready to purchase a home, a college scholarship search tool, and both retirement expense and income calculators. To find the Web page that lists all of the

Portfolio Manager Essentials

Symbol: Add to: My Account

My Portfolio

Manage accounts | Add transactions | Customize views | Update quotes | View: Standard

Symbol	News	Chart	Message board	Last	Change	Shares	Market value	Today's change	Stock/Counter	rating	Total return all dates	Gain	Realized gain
My Account													
SCORP				2,267.62	-13.21	0.00	0.00	0.00	N/A		0.00%	0.00	0.00 edit delete
BRDU				12,246.70	-62.76	0.00	0.00	0.00	N/A		0.00%	0.00	0.00 edit delete
T				37.97	-0.31	75.00	2,847.75	23.25	7	6.87%	361.02	141.77	edit delete
WU				21.05	-0.15	40.00	842.00	6.40	7	-4.46%	73.22	52.61	edit delete
Total:							\$3,689.75	\$29.65			6.29%	\$434.24	\$194.38
Retirement and 401k													
EPH				71.82	-0.12	80.00	5,745.60	9.60	N/A		5.78%	314.01	0.00 edit delete
FMAGN				82.37	-1.08	150.00	12,355.50	0.00	N/A		11.35%	1,259.01	0.00 edit delete
SPY				43.15	-0.29	50.00	2,157.50	14.50	6	16.68%	611.02	285.52	edit delete
QQQQ				43.65	-0.06	128.00	5,586.25	-7.80	N/A		9.69%	293.76	0.00 edit delete
SPY				131.86	-0.92	50.00	6,593.00	-46.00	N/A		0.03%	2.01	0.00 edit delete
Total:							\$32,307.85	-\$29.40			7.76%	\$2,479.81	\$285.52
Grand Total							\$36,997.60	\$0.25			7.30%	\$2,914.05	\$479.90

Portfolio Manager helps you monitor your investments portfolio and make transactions from anywhere.

tools offered by MSN Money, click the Personal Finance tab. You will see a box that lists the different personal finance topics: Banking; Family/College; Insurance; Retirement; Savings/Debt; and Tax. Click one of these topics and under the tools header (for instance, Banking Tools), you will see a View All Tools link. Click View All Tools, and you will be taken to a page that lists all of the personal finance tools MSN Money has to offer.

Family Finances

Getting your family's finances in good health is the top priority for most households, but for those without a strong financial background, it can be difficult to understand how. The Personal Finance section of MSN Money has a plethora of articles that include information and tips regarding family finances, such as buying a home, planning for college, obtaining the right kind of insurance, and planning for retirement. There are also portions of the Web site dedicated to informing you about how to alleviate and prevent debt and what you need to know about paying your taxes.

MSN Money doesn't just focus on families, however. People of all ages and in various stages of life can all benefit from MSN Money. Articles are available for making financial decisions if you've never been married, if you are a single parent, or if you're going through a divorce.

One of the most important aspects of ensuring your finances enjoy a clean bill of health is managing your debt and finding a way to save for the day you have an unpredictable expense. There are articles that weigh the pros and cons of dining in or out, and there are tips that will help prevent you from falling into overwhelming debt—or help you find your way out.

The Insurance portion of the Personal Finances section offers guidance for making decisions about life and health insurance, car insurance, and homeowner's insurance. It helps

Compare Mortgage Payments

Use this calculator to compare mortgage payments and other monthly costs for different mortgage loan types. Get an estimate of the potential tax credit if you itemize and deduct interest on the loan.

For more information about mortgage loans and current interest rates, visit our Mortgage Loan Center.

Enter information in Steps 1 and 2, then scroll down and click **Calculate** to compare costs and view the comparison chart.

Step 1: Enter costs and tax information Help

Purchase price: \$

Down payment: \$

Yearly property tax (optional): \$

Yearly home insurance (optional): \$

Monthly homeowner dues (optional): \$

Include Annual PMI in calculations? ☒

Income tax bracket (optional): ▼

Step 2: Compare up to 3 loans Help

Loan #1 -- Enter term & rate

Term, in years:

Interest rate:

Monthly payment (prin. & int. only): \$

Total monthly costs*: \$

Cuts your income tax by (year one): \$

Loan #2 -- Enter term & rate

Term, in years:

Interest rate:

Monthly payment (prin. & int. only): \$

Total monthly costs*: \$

Cuts your income tax by (year one): \$

Loan #3 -- Enter term & rate

Term, in years:

Interest rate:

Monthly payment (prin. & int. only): \$

Total monthly costs*: \$

Cuts your income tax by (year one): \$

Financial tools, such as the Mortgage Calculator, can help you make decisions for your financial future.

you wade through what different insurance providers offer in order to get the kind of insurance that is going to best protect you and your assets.

MSN Money can also help you prepare for tax time by educating you on tax law, deductions, and other tax preparation tips. There are articles that can steer you toward discovering deductions you never knew you qualified for or tell you which deductions are likely to raise a red flag for the IRS.

Invest In Knowledge

The Investing section is broken down into categories for Markets, Stocks, Funds, ETFs (Exchange-Traded Funds), Commentary, and Brokers. Here, you can find articles from financial industry commentators that look at issues affecting the stock market and how you can become a better investor. You can also click the Brokers link to sign up with an online broker, such as TD Ameritrade or Charles Schwab.

The Markets section provides summaries of the U.S. markets, commodities, treasuries, world markets, and currencies, along with a quick look at how the markets are faring that day via line graph and the latest quotes. The Market Report gives up-to-date headlines on all the happenings in the market that day. There is a separate section for IPOs (initial public offerings) with information about new and upcoming filings and the performance of current IPOs. The link to the IPO Center can be found near the bottom of the page in the Markets section. There is an IPO Basics page that includes information, such as definitions for industry jargon. The IPO Center also includes a section with market activity, indexes, and market research, such as upgrades and downgrades.

Under the Stocks section, you will find up-to-date quotes, charts, and news. The Guided Research portion includes a Research Wizard, which educates users about what MSN Money deems the five vital issues (fundamentals, price history, price target, catalysts, and comparison). The Stocks section also includes articles on market strategy and industry news.

The Funds section provides tools to help you research the best available mutual funds and how to go about selecting a mutual fund to invest in. Here, you can also find data, such as quotes, charts, and returns, in regard to mutual funds.

Get A Grip

MSN Money has something to offer everyone. You can increase your knowledge on financial issues that affect you by reading one of the many articles provided by MSN Money, or you can manage your investments and financial accounts all at once. MSN Money won't solve money troubles, but it can give you the tools and information you need to make sound financial decisions. ■

BY TESSA BRENNEMAN

Count Your Blessings

Thanksgiving is just around the corner, so it's time to stop and count our blessings. In the spirit of the season and in honor of the one remaining serving of last year's leftovers here at Casa de Ptomaine, the following are 10 technologies for which I am most thankful, presented in alphabetical order:

1 Cell phones. I'm thankful for the obvious convenience and safety they provide, but also for helping me maintain my image as a trendsetting fashion plate. Who among us wouldn't look great with a pulsating, radiation-spewing device clipped to one's belt? GQ, eat your heart out.

2 Email. How empty and meaningless life would be with no spam; no opportunities to earn millions of dollars helping deposed Nigerian royalty; and no discount vitamins, mortgages, or lifestyle-enhancement products. What would be the point of living? Pesky annoyances notwithstanding, email is a blessing at both business and personal levels.

3 Flat-panel LCD monitors. It wasn't that long ago that even attempting to move a monitor meant hiring several burly men or purchasing a truss. Today's LCD monitors are nothing short of spectacular, whether widescreen 30-inchers or popular 17-inch and 19-inch models. Crystal clear images, small desktop footprint, easy on the eyes. What could be better? (See No. 8.)

4 Global positioning systems. I'd be lost without my GPS. Remember driving into a service station where the friendly uniformed attendant would fill 'er up; clean your windows; check the air, water, and oil; and provide free maps? Those days are gone forever, but looking on the bright side, thanks to GPS, we don't have to struggle with those impossible-to-fold maps anymore.

5 iPod and iTunes. iKnow there are many less-expensive devices and that free music is available elsewhere online, but the iPod and iTunes are fun. Thanks to Pod 'n' Tunes, I replicated most of my priceless Milli Vanilli collection, all digitally remastered to audio perfection and all contained in one easy-to-lose device capable of inflicting permanent hearing loss with an accidental swipe of the volume control.

6 Linux Ubuntu. I've been using Windows since the first hand-cranked version was released in the late '50s, so we pretty much reached the age of senility together: I can't remember where I left my keys; Microsoft can't remember why it thought Vista was a good idea. I'm grateful for a wonderful alternative to Windows in the form of the Linux Ubuntu operating system. As an open-source product, it's

free, it's virtually impervious to viruses and spyware, and there are thousands of free applications, as well.

7 Mini PCs. Awww, they're so cute! I have an Asus "ultra-mobile" EeePC, and it's a hoot. You wouldn't want one of these little critters as your only computer, but for approximately \$400, weighing in at a scant 2 pounds, and utilizing flash memory, it's small, fast, and perfect for checking email and visiting Web sites. To read my complete review of this mighty mini, visit tinyurl.com/67k9fp.

8 Multiple monitors. A flat-panel monitor is about the greatest technological breakthrough since the tapioca face mask, but multiple monitors take computing to an entirely different level. I use a three-monitor setup, with one screen dedicated to email, one screen I use exclusively for my Web-based research—that's right, I'm calling it research—and one screen for writing insightful, informational, inspirational columns. (Be nice!) I can't help but wonder, though, if a three-monitor setup is this good, how much better would it be to have four? Oddly enough, Mrs. Modem doesn't share my level of curiosity.

9 Roku Netflix Player (\$99.99; www.roku.com/netflixplayer). I'm thankful

for the convenience of Netflix, but even more appreciative of the Roku set-top box for on-demand streaming of full-length movies to television. More than 12,000 movies and TV episodes are currently available, which I find invaluable when I just cannot endure another minute without seeing "Leave it to Beaver." Since purchasing mine several months ago, I haven't left the house, so it's going to be the "must-have" gift for agoraphobics this holiday season.

10 The Internet. When it comes to counting one's technological blessings, how can I not include The Internet? When I first went online back in 1988, at a blistering 300bps, I wept openly. When the Web came along a few years later, I was obsessed and repeatedly harassed everybody I knew to get online. Thus began two decades of solitude from which I am only beginning to emerge, thanks to the ability to purchase my meds online.

From Mrs. Modem, myself, and our four furry children, we wish you a happy, safe, and peaceful Thanksgiving. ■

BY MR. MODEM

Mr. Modem (Richard Sherman) is an author, syndicated columnist, radio host, and publisher. "Mr. Modem's Weekly Newsletter" provides personal responses to subscribers' computer and Internet questions, plus weekly computing tips, Web site recommendations, virus alerts, hoax warnings, and more. For additional information, visit www.MrModem.com.

Check Out The Tech Support Center!

The Tech Support Center at SmartComputing.com has always been *the* place to find helpful information for all of your computing troubles. Check out the Networking & Communications area to find out how to install and configure your home network properly. You'll find out how to set up your wireless network, fix wireless connection problems, and much more. Be sure to take a look at the Backups & Data Recovery section, as well. This area contains articles that explain the ins and outs of creating system backups, recovering lost data, and other backup basics. Check out these articles at SmartComputing.com's Tech Support Center today.

1. Go to SmartComputing.com and click the Tech Support Center link on the home page.
2. Click Backups & Data Recovery or Networking & Communications.
3. Click View ALL Backup & Data Recovery Articles or View ALL Networking & Communications Articles to view articles in those areas.

Be sure to store all of your articles and information in your Personal Library to keep for future reference. Simply log in and when you find an article you would like to keep, click the Add To My Personal Library link at the top of the page. Create as many folders as you like in order to keep your information organized and accessible.



Fun Site

Take a look at our staff-selected Fun Sites to discover a new place to spend a few minutes (or more) online. Check out the SmartComputing.com Daily section for the daily pick.



Extras

Visit the Next Month's Articles Online Now section of our home page to see a preview of what's to come in our next issue.



Q&A

If you're stumped by a computing question, we're here to help (and so are our readers). For advice from fellow readers, visit the Q&A Board. Click Go To Q&A at www.smartcomputing.com to get started.



Smart Computing's Fun Site Of The Day (Sept. 3, 2008)

Chocolate Bytes

You can have it for breakfast, lunch, and dinner. Yes, for lovers of chocolate, there are no limits to how and when you can eat the delicious food. At Chocolate Bytes, you can get recipes and ideas about how to incorporate more chocolate into your life. So before you reach for the next chocolaty treat, check out this site and try out a new recipe or look over a review.

www.chocolatebytes.com





Installing New Windows

When To Reinstall Your OS

- 49 When In Doubt, Back Up
Back It Up Before You Wipe It Clean
- 52 How To Reinstall Windows
Using Your PC's Recovery Tools
- 55 How To Reinstall Windows
Using Your Windows Vista Disc
- 59 How To Reinstall Windows
Using Your Windows XP Disc
- 63 Save Time With Slipstreaming
Update Your Windows XP Installation Disc

Starting over is rarely easy, and restoring your system to a fresh copy of its OS (operating system) can be a royal pain. As with many drastic steps, though, sometimes reinstalling Windows is the only practical choice. When that time comes, we're here to help. Reinstalling Windows may not be the easiest or most exciting way to spend an afternoon, but the least we can do is help make sure you get it done right. We'll walk you through everything you need to know, from start to finish.

Why Reinstall?

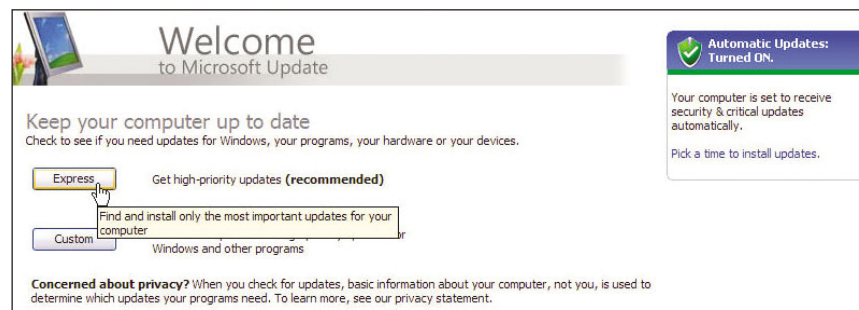
Why would you ever need to reinstall an OS in the first place? Note that we're not referring to an upgrade or setting up a new system—we're merely talking about putting the same OS you have now back on the same system. So why bother? In most cases, you would only consider a reinstall when software or OS problems have gotten so bad that your only remaining step is to try a clean Windows installation. Sometimes, corrupted code and conflicting updates get so tangled that it's best to simply start over. You may also think about reinstalling the OS after an upgrade to core hardware components. Finally, you may be one of those hardy (but thoughtful) souls in the habit of reinstalling the OS and all your applications every year or so out of general principle. It's a great

way to proactively clean up a system and keep things running smoothly if you're willing to commit the time and energy.

Regardless of your attitude toward proactive reinstalls, no one ever wants to be in a position of going down that route out of necessity. Beyond the time and hassle, there's always a real risk of data loss and introducing new problems with driver or software conflicts. The best way to avoid reinstalls is to keep problems from getting so serious that they warrant last-ditch efforts. Adhere to a regular maintenance routine that includes hard drive clean-up, antivirus/antispyware scans, and checking for driver updates. Take precautions in what you put on your system—only install software you really need and ensure it comes from trusted sources. Also, configure Windows' Automatic Updates to download and install security patches and other critical updates regularly and without requiring intervention.

Final Efforts

If you're already in dire straits, try a few extra steps before taking the plunge. The first thing you should do is conduct a little research. Check out *Smart Computing's* Tech Support Center (www.smartcomputing.com/techsupport), which is a comprehensive troubleshooting resource. Google your PC's symptoms and any error messages you may receive. Browse online discussion boards for ideas from other users who may be having the same issues with their PCs. Next, visit Windows Update (www.windowsupdate.com) and install any recommended or critical updates because your problem may be a known issue resolved by new updates available from Microsoft. Then, remove any newly added applications and undo any newly made changes. If recent changes to your system created trouble, reversing those changes may eliminate the problem. For a more sophisticated approach to this strategy, try Windows'



Windows Update may have the answer to your Windows woes, and it can keep you from having trouble in the first place.

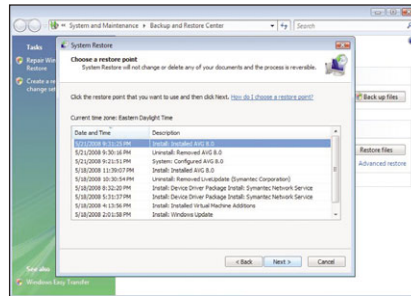
System Restore utility. In Windows Vista, click Start and type **restore** in the Start Search box. In Windows XP, navigate from the Start menu to All Programs, Accessories, and System Tools. It wouldn't even hurt to take a moment and make sure System Restore is running—you won't have good restore points to fall back on if the tool isn't running. Choose a restore point from when you know the system was working correctly and "roll" Windows back to those happier days.

Take The Plunge

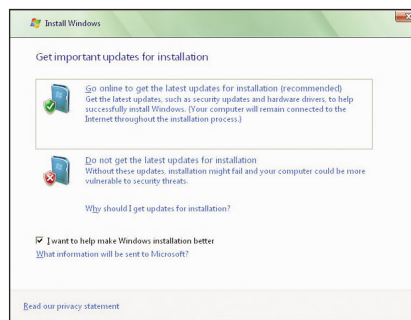
Sometimes, however, Windows' problems accelerate to the point where moderate measures won't suffice. If you've tried everything else, it's time to reinstall Windows. Our series of articles in this month's feature package mirrors that process, from taking backups to creating a custom installation disc that will make the process easier next time.

Backups are the most important part of any reinstallation, or of any troubleshooting for that matter. Before doing anything we recommend in these articles, make a full backup of all your important data. Ensure you have product keys and installation discs or setup files for all your important applications. Backups are especially critical when reinstalling an operating system. They are obviously necessary to restore your data and settings on the new system, but they're also indispensable if you need to roll back an unsuccessful reinstallation or even start over on a new machine. We will describe the most popular backup devices and give you the pros and cons of using each so you can determine what the best backup method is for you. We'll then walk you through the process of how to export emails, bookmarks, Internet settings, and other files.

Before you get too far down the reinstallation path, but after your backups are complete, another tool might help get you out of a jam. The Startup Repair tool comes with Vista's installation disc.



The System Restore utility provides an opportunity to roll your system back to a previously functioning state, which can help avoid the hassle of a reinstall.



Windows Vista is the easiest Windows installation yet, but you'll want it to check for updates since the last time you installed.



Vista's Startup Repair utility, launched by booting from the installation disc, can find and fix underlying operating system issues without wiping out data or applications.

It can detect and fix a number of OS problems with minimal intervention and without wiping out your data or applications. When you boot from the disc as though you were going to reinstall, you can opt to Repair Your Computer instead of installing the OS. Startup Repair will spend some time looking for and automatically fixing

Windows problems. The Vista installation disc also provides access to other specialized recovery tools, including System Restore, Complete PC Restore, and a Memory Diagnostic Tool, among others. Your situation may or may not be resolved by these tools, but we'll show you why they're worth the effort.

The actual process of reinstalling either WinXP or Vista is much easier than in previous Windows versions. Depending on your hardware and OS version, installation can take anywhere from 30 minutes to three hours. Make sure you have a valid authorization key handy and set aside some time when you can keep half an eye on the installation. There isn't anything to do or see during the vast majority of the installation, but every once in a while you'll need to jump in and answer a few questions to move things along. The processes for reinstalling WinXP and Vista are similar in some ways, but they have significant differences throughout the process; therefore, we outline the details for reinstalling WinXP and Vista in separate articles.

Finally, we'll show you a neat trick known as "slipstreaming." It's a proactive method of making future OS reinstalls quicker, easier, and safer. Normal reinstalls set your OS back to the version on the setup CD. Windows XP and Vista installers search for updates during setup, but even those tools can't bring the OS completely up-to-date. After reinstalling, you have to visit Windows Updates over and over until you apply all subsequent security and functional updates. This becomes especially onerous when you're dealing with service packs (WinXP is on SP3 and Vista is on SP1). Slipstreaming involves copying the installation files from a CD to your hard drive, replacing old versions of certain files with their newer counterparts, and then burning a new installation disc that will write the updated version to your hard drive the first time. It's not a simple process, but it's manageable. We'll show you how. ■

BY GREGORY ANDERSON



Coming to terms with the impending fate of your failing OS (operating system) can make you cringe because you know what's on your hard drive: important emails, valuable documents, and financial records. Now that you realize a complete Windows reinstallation is necessary to cure your OS ailments, you'll need to back up the indispensable data saved on your internal hard drive. We'll start by providing the lowdown on popular backup devices such as external hard drives, CDs, DVDs, and flash drives. Next, you'll learn how to export emails, bookmarks, Internet settings, and other files. Backing up your system takes time and effort, so be sure to review each step thoroughly before you dive into the backup process.

Backup Media: Pros & Cons

You can determine which storage device is best for you by considering how

much data you want to save and how quickly you want to transfer it. The following are some of the common options for performing data backups.

External hard drives. A standalone drive is the ideal medium for backing up a large amount of data. Currently, external hard drive capacities range in sizes from 250GB to 2TB (terabytes). These drives boast fast transfer rates via a USB 2.0, FireWire, or eSATA (external Serial Technology Attachment) interface. You can expect to pay anywhere from \$100 to \$500 for a sizeable external hard drive.

The primary benefit of an external drive is its portability. Namely, you can load your data from your PC and connect to any other computer. Handle these self-sufficient drives with care—they're vulnerable if accidentally dropped. Also, be aware that they're not immune to malware.

Optical media. CDs and DVDs are another option for creating an extensive data archive. Recordable (single use)

and rewriteable (up to 1,000 burns) discs are a smart choice for the budget-conscious. It will cost you between 20 to 40 cents per blank disc, and most DVDs and CDs come packaged in bundles of five or more. CD-Rs (CD-recordables) will write up to 700MB, while standard DVD-Rs (DVD-recordables) are capable of holding up to 4.7GB.

Optical media does have its limitations. Although an individual disc is inexpensive, the cost can quickly add up if you're using a large number of them. In the long run, you might be better off purchasing an external hard drive for a sizeable backup. One of the most obvious cons about using discs is their susceptibility to small scratches, dents, and general abuse. If you're one to carefully slip DVDs and CDs in a protective case and remove them only when absolutely necessary, you'll likely do well in preserving your data archive.

Flash drives. A USB flash drive goes by many names: jump drive, pen drive, thumb drive, memory stick, etc. That's

because it's small, incredibly portable, and requires no power source. Although its capacity is limited (under 1GB to 16GB), it's still highly durable and ideal for quickly backing up documents. USB drives with a 2.0 interface can hold up to 4GB of data. Keep this tiny storage friend in mind when deciding how to move your files on your hard drive.

Backup Best Practices

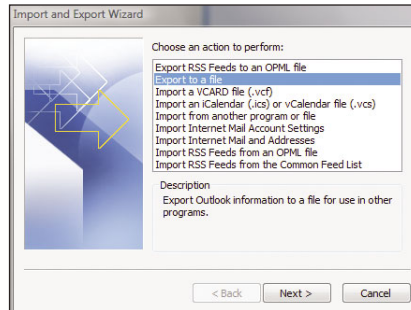
In the following sections, we'll walk you through each of the steps you should take to ensure that all your essential data (emails, documents, files, etc.) is ready to be transferred to your preferred storage device.

Email

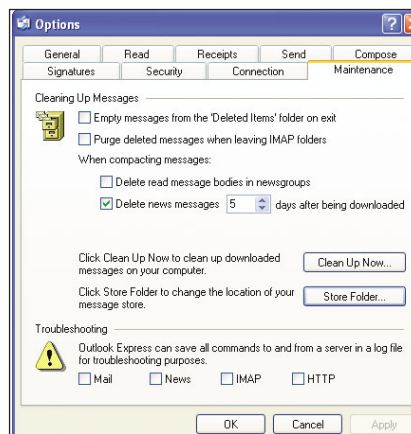
You've no doubt saved your most important emails, no matter how old they are. Maybe you've flagged innumerable emails for follow up, as well. In order to retain these messages in Outlook, you'll need to export them correctly.

Outlook. In Outlook and Outlook Express, you're given the option to export your emails in a PST (Personal Storage Table) file to consolidate and save them for external storage. To export PST file data, begin by clicking the File menu in Microsoft Outlook. Now, select Import And Export. The Import And Export Wizard will appear. Select Export To A File and click Next. Under Create A File Of Type, click Personal Folder File (.pst) and click Next.

At this point, you'll choose the folder from which you would like to export. You can select your entire inbox, subfolders you've created within your inbox, or any other Outlook information you see listed in the Export box. Click Next. The final step requires you to save your newly created PST file. Click the Browse button to select the appropriate location. For instance, if you've connected your flash drive to your PC, you can save your backup folder directly onto the drive. Click Finish to export your folder. Whenever you create a new personal folder,



To export emails from Outlook, choose the Export To A File option in the Import And Export Wizard.



In Outlook Express, go to Tools, Options, select the Maintenance tab, and click the Store Folder button to determine where you will place your backup emails.

Microsoft will ask if you'd like to use a password to access that particular folder. Once you've decided on a secure password, click OK.

Outlook Express. There are alternative steps for creating backups in Outlook Express. Go to Tools, Options, click the Maintenance tab, and select Store Folder. In the Store Location dialog box, you'll see the file path of your Store folder. Highlight the entire file path and press CTRL-C to copy it. Click Cancel to close the dialog box and then click Cancel in the Options window.

Click Start, select Run, and then press CTRL-V to paste the Store folder location in the Open box. Click OK. Go to the Edit menu and click Select All; click the Edit menu again and click Copy. Next, minimize all open windows so

you only see your Desktop. Right-click the Desktop, select New, and click Folder. Name your folder so you will remember what you're saving and then press ENTER. Open this newly created folder, right-click inside the window, and click Paste. You can now save this folder on your external hard drive, burn it onto a backup CD/DVD, or safeguard it however you like.

Internet Browsers

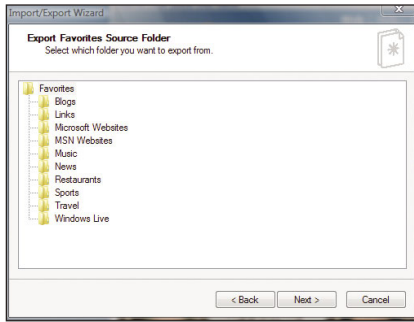
Saving bookmarks and browser settings is no less important than preparing your email archive for export. If you've accumulated a large collection of Favorites, backing these up will prevent you from searching for your regularly visited sites again.

Internet Explorer. IE allows you to export all of your favorites via the Import/Export Wizard. To access the Import/Export Wizard, click the File menu and select Import And Export. Click Next in the introduction window to move on to the Import/Export Selection window. Choose Export Favorites and click Next. Select the individual folder you would like to export or select the Favorites folder at the top to export all Favorites; click Next. Lastly, choose a location to save your Favorites, which you can later save to your preferred storage device. Click Next and Finish to close the Wizard.

Firefox. Although Mozilla Firefox doesn't include a backup wizard for saving bookmarks, the steps are simple and straightforward. Click Bookmarks and select Organize Bookmarks. The Library window will appear. Click Import And Backup and select Export HTML. Choose your desired location and click Save. This will save your bookmarks as a Web page. When you reopen this file, you'll be able to access any bookmark with a single click.

Finance Programs

If you use Microsoft Money or Intuit Quicken to track your assets and liabilities, you probably devote real effort to



Internet Explorer gives you step-by-step instructions for exporting your Favorites.

keeping your investment portfolio current. You can ensure that you've correctly backed up the appropriate files in these programs by using the processes outlined below.

Microsoft Money. Start by clicking File and selecting Back Up. In the box labeled File Name, you should see the default words My Money Backup; you can change this label to your preferred file name, however. The Save As Type box should say Microsoft Money Backup (*.mbf). From here, you can save your backup copy to an alternative location (for CD or DVD) or place it directly on a flash drive or external hard drive. Click Save to create the backup copy of your Money file.

To restore a Money backup file after reinstalling Windows, you will click File and Restore Backup. Choose the Restore From A Backup File option and click Next. If you've placed your backup disc in an optical drive or connected an external drive to your PC, you can click Restore From Default Backup File (if you recognize the media listed underneath this section), or choose Let Me Browse For A Different Backup File to find your backup Money file. Next, click Restore. Microsoft Money will inform you that it will use your backup file to create a new restored file that will be saved in the location listed at the bottom of the dialog box. Click Restore and watch your accounts reappear.

Quicken. The method for backing up Quicken data is similar to Microsoft

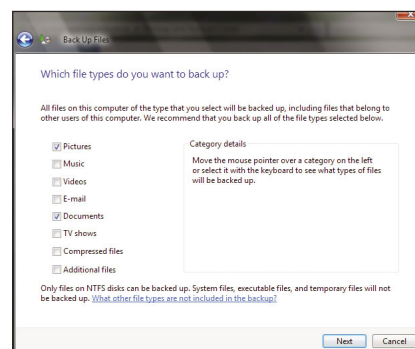
Money. Simply click File and Backup. Select the On My Computer option and then click Browse to save the backup file to your chosen storage medium. Click OK.

When you're ready to restore your Quicken data, click File, select Restore Backup File, and select the location where you've backed up your Quicken file. A dialog box may appear with the following message: Overwrite The File Which Is Currently In Use? Click OK; this will replace the old data file with the new one.

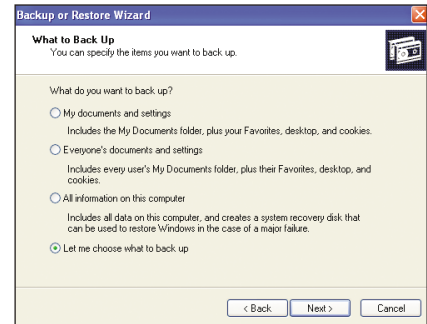
Documents & Folders

Before reinstalling your OS, you will also need to make a copy of My Documents and any other essential folders saved on your internal hard drive. You're not on your own, however, because Windows Vista and WinXP provide backup guides to help you organize the data you want to copy. Before you begin your backup on either operating system, insert the storage medium of your choice.

WinXP. Go to Start and click All Programs, Accessories, System Tools, and Backup. Click Next and then select Backup Files And Settings; click Next again. Select Let Me Choose What To Back Up. Follow the instructions in the Backup Or Restore Wizard to select the items and location for the backup. Select Finish to complete the backup.



To back up files in Windows Vista, checkmark the categories to identify which types of files you would like to save.



Windows XP gives you four backup options; we recommend choosing the last option, which lets you select individual items.

Vista. Click Start and Control Panel. Under System And Maintenance, click Back Up Your Computer. Click the Back Up Files button. Vista will ask you where you would like to save your backup. Click On A Hard Disk, CD, Or DVD. Directly under this option, use the drop-down menu to select the appropriate storage device and then click Next. Select the checkboxes next to each hard drive that you want to include in your backup and click Next. Now, you will choose the types of files you want to back up. Simply select the checkboxes next to the desired items to include them in your backup and click Next. If you want to activate scheduled backups, choose the month, day, and time you would like to back up the files you selected in the previous window. Be sure to click the checkbox next to Create A New, Full Backup Now In Addition To Saving Settings so you can copy your files immediately. Click Save Settings And Start Backup.

One More Reminder

Considering all the data you've accumulated on your PC, we can't overemphasize the importance of backing up all valuable emails, documents, and files. Once you've completed this task, you should feel secure in knowing that you've safeguarded essential items on your OS. ■

BY JOANNA SAFFORD

How To Reinstall Windows

Using Your PC's Recovery Tools

Until recently, the Dells, HPs, and Gateways of the world shipped recovery discs with each PC. If you were at the end of your rope with Windows, you could use the recovery discs to return the system to its factory condition. Now, most PC vendors simply set up a recovery partition (a reserved portion of the hard drive) that includes the necessary files for restoring the PC to its factory condition. We'll help you determine the type of system rescue tool bundled with your PC, detail how to use integrated recovery utilities and restore discs, and show you how to perform the reinstallation process.

Find Your Recovery Tools

If you have a Windows disc with a Certificate Of Authenticity from

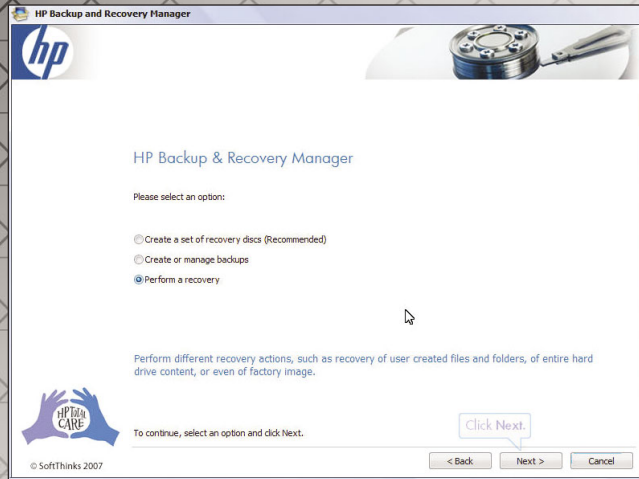
Microsoft, you have a real retail copy of Windows. Those with a Windows Vista disc can jump to page 55 for a step-by-step guide to reinstalling Windows Vista, while Windows XP users can visit page 59 for instructions on reinstalling Windows using a WinXP disc. If you don't have a retail Windows disc and your PC is more than three years old, you were probably given a system restore CD that's branded with your manufacturer's name and logo. With a typical rescue disc, computer makers bundle the version of Windows that shipped with your computer, as well as the vendor-specific software and hardware-specific device drivers.

Newer computers may have a small hard drive partition, typically labeled Recovery or Backup, which you can access at bootup or within Windows to initiate the rescue of your PC. The

downside of a recovery partition is that a hard drive crash leaves you without a functional system or an immediate way to reinstall Windows. To avoid hard drive catastrophes, most manufacturers also include an application to let you create a set of recovery discs. Some computer makers even integrate programs that allow you to capture a snapshot of all the files on your PC, so you can restore your PC with the personal settings, applications, and data on your computer at the time you backed up the OS (operating system).

Windows Discs vs. Restoration Tools

A real Windows disc features all the data files and drivers you need to install or repair a version of Windows. Typically, restoration discs and backup



Many computer makers include applications, such as HP's Backup And Recovery Manager, to help you create your own rescue discs.

partitions lack the ability to repair a Windows installation or replace Windows system files without reformatting the computer. In many cases, you'll only want to use the manufacturer's rescue tools when your PC is performing so poorly that you have no other choice. Additionally, most manufacturer discs are unique to a single model of PC, which means that the recovery discs cannot be used to restore another computer to a working condition.

It's typically easier to restore your PC back to its original state with a manufacturer's disc than with a Windows disc, because restoration tools offer a more streamlined installation process. Some manufacturers also offer a "nondestructive" reinstallation option, which writes a new copy of Windows over the old one without removing your applications or data. If a nondestructive option is available, attempt to overwrite the Windows installation before you reformat the hard drive and erase your personal files.

Make Your Own Rescue Discs

If your PC includes only a recovery partition, it's a wise idea to create system restore discs right after you set up the PC. Although each manufacturer will have specific steps for generating the set of discs, we'll go through HP's Backup And Recovery Manager—an application designed to back up

your OS, individual programs, and system drivers—to give you a good idea of what you'll need to do.

Click the Start button, select All Programs, and choose Recovery Manager. Click Recovery Manager, choose Advanced Options, select Recovery Disc Creation, and click Next. The HP Recovery Manager will calculate the number of blank CDs or DVDs the process will require. HP indicates that, in many cases, multiple CDs or DVDs will be needed to store all of the data transferred by the Recovery Manager. At the prompt, insert the blank media and follow the on-screen instructions to create your restoration discs.

When Windows Won't Boot

In a worst-case scenario, the system recovery tools from your computer manufacturer are your PC's lifeline. Many computer makers, including Dell and Gateway, now use Vista's WinRE (Windows Recovery Environment) as a jumping-off point to rescue the OS, so we'll start by covering how

you can access the Dell Factory Image utility within the Microsoft WinRE.

Insert the system restore DVD included with your Dell and start your PC. Repeatedly press the F12 key until the Boot Device Menu appears. (NOTE: system rescue tools, including rescue options that access a partition of your hard drive, are generally brought up by pressing one of the function keys on your keyboard.)

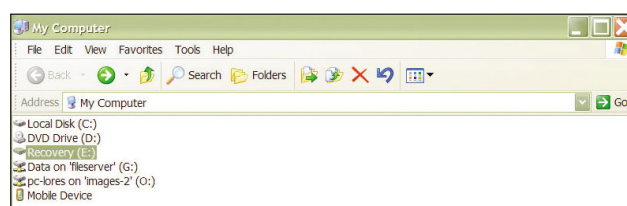
Use the keyboard's arrows to select Onboard Or USB CD-ROM Drive and press ENTER. When the Press Any Key To Start The Computer From The Windows Vista DVD message appears, press a key. You'll need to select the appropriate language, time and currency, and keyboard or input method. Click Next and select Repair Your Computer. Vista will then attempt to repair itself, and you'll need to select No when the utility asks Do You Want To Apply Repairs And Restart Your Computer.

At the System Recovery Options window, click Command Prompt and type the following (pressing ENTER after each line):

```
path d:\windows;d:\windows\system32
d:
CD Tools
PCRestore
```

At the Dell Factory Image Restore window, click Next and choose Yes, Reformat Hard Drive And Restore System Software To Factory Condition. Click Next and when the Factory Image Successfully Restored! message appears on-screen, click Finish to boot up the fresh Windows installation.

We found that some recovery tools may only require a few steps to initiate the reformatting and reinstallation of Windows. For instance, system recovery with Gateway's Windows XP Recovery CDs consist of placing Disc 1



Recovery partitions are often labeled as Recovery or Backup in Windows Explorer.

into your optical drive, restarting the computer, and pressing the *R* key at the prompt. Next, press the *Y* key to confirm that you want to format the drive and reinstall the OS. Once the utility finishes copying the files from Disc 1, you'll be prompted to insert Disc 2; you'll continue to insert discs until the System Restore dialog box prompts you to restart your new Windows installation.



A system recovery disc is typically branded with your manufacturer's logo and a listing of the operating system or application it's designed to restore.

A Mildly Destructive Option

If you haven't recently backed up the data on your hard drive, a sudden system crash can mean the loss of the latest data added to your PC. To help consumers avoid digital losses, some manufacturers let you generate a backup of the data on the hard drive to a protected folder or partition on the hard drive that the recovery tool makes accessible after you reinstall Windows.

For example, Alienware's AlienRespawn v2.0 includes an Advanced Recovery option that places all your hard drive's existing data files into one folder on your clean Windows installation. To set it up, start the PC and press *F10* before you see the Windows loading screen. Click *Next* and AlienRespawn will offer three system repair options: Microsoft System Restore, Advanced Recovery, and Complete System Recovery. The System Restore option simply returns the PC to a

Windows Restore Point, while Complete System Recovery brings the PC back to its factory Alienware state.

Select Advanced Recovery and click *Next*. AlienRespawn v2.0 will then back up all the files on your hard drive to a protected location, format the hard drive, and reinstall Windows. Once you click *Finish*, the PC will restart and you can access all your files in the *C:\BACKUP* folder. The Advanced Recovery option also copies the files associated with your applications, but because the Windows Registry is overwritten during the recovery process, you'll still need to reinstall the applications.

A Better Place To Be

A clean Windows installation using your manufacturer's recovery tools should provide you with a more responsive PC. If you lose your recovery discs or they fail during the Windows reinstallation, you can typically order (for a price) replacement discs that include the original OS from the manufacturer. ■

BY NATHAN LAKE

Backup & Restore With Windows Vista

If the maker of your PC didn't include system recovery discs or a way for you to back up the OS, some Vista users may be able to create their own rescue discs. Both Vista Business and Vista Ultimate feature a Complete PC Backup And Restore tool that lets you back up your version of Vista, applications, multimedia files, and personal settings. To open the utility, click the *Start* button, select *Control Panel*, choose *System And Maintenance*, and select *Backup And Restore Center*. To start the Complete PC Backup utility, select the *Back Up Computer* button.

The utility will give you two storage options: On a Hard Disk and On One Or More DVDs. With the hard disk option, you can record data to an external hard drive, a separate hard drive, a USB flash drive, or a partition of the primary drive on your PC. With the DVD option, you can use as many DVDs as you need to store and back up all your data. If you choose a medium that doesn't offer enough space, the Complete PC Backup wizard will bring up a dialog box that lets you remove an entire drive volume, such as *E:* or *F:*, from the backup. After you make your selections, the Complete PC Backup And Restore utility will produce a summary of data about to be

copied. Click the *Start Backup* button, and when Vista finishes, all the files will be saved to the *WindowsImageBackup* directory on your storage medium of choice.

To restore a Complete PC Backup, you'll need to open the WinRE (Windows Recovery Environment). Most PC builders now include the WinRE onto a partition of your hard drive, but you may also be able to access it by booting to the System Restoration disc from your manufacturer. After the BIOS (Basic Input/Output System) loads, press the *F8* key on your keyboard and select the option that allows you to open the WinRE. You'll need to select a language, time and currency format, and keyboard or input method. At the Install Windows screen, click *Repair Your Computer*, select your Vista installation, and choose *Next*.

Vista then attempts to perform a quick repair of your OS. When it finishes, select *Windows Complete PC Restore*, connect the media where you saved the backup, select it, and click *Next*. Select the snapshot of Windows you want to use and click *Next*. It's advisable to select the *Format And Repartition Disks* checkbox before you click *Finish*, because the problems that motivated you to restore the PC may still remain. ■



How To Reinstall Windows Using Your Windows Vista Disc

Reinstalling an operating system can be a daunting task for those who have never done it before. It requires a little planning and some preparatory work, but all in all, it's not much more difficult than installing an operating system on a brand-new computer. That said, installing an operating system at all can be a challenge for beginners, but in truth, anyone can do it with a little know-how and an original Windows Vista installation disc.

Sometimes, an error or bug is so severe that you need to completely reinstall the operating system in order to fix the problem. If you find yourself

needing to perform a reinstallation for any reason, we'll walk you through the process step-by-step.

What A Reinstallation Does

The reinstallation of an operating system, referred to as a "clean install," essentially means that you'll be wiping the hard drive of all previous data and replacing it with the new operating system and its associated files. Anything you had installed on that hard drive before, including any files, folders, or applications, will be overwritten if you perform a clean install.

A clean install is a smart move (and aptly named) because it gives your

computer a fresh start. Whatever junk programs and unnecessary files you had acquired over time will be out of your way.

Preparation

You'll need your original Vista installation DVD and the product ID number. (The product ID can be found on the disc itself, or in some cases, on the outside of the computer case.) You also need to have all the installation discs for your applications on hand. If you have applications you downloaded from the Internet that don't have a disc, save the .EXE files onto a flash drive or CD before you perform the reinstallation. Also

save all drivers and updates for your applications and hardware; if you needed them before, you can bet you'll need them again, and you probably won't want to spend the time online or on the phone with manufacturers trying to track down drivers if you don't have to.

You should also back up all your files and folders. There are various ways to back up your data. You can use backup software, or you can manually drag and drop all your data onto an external hard drive or other removable media. Whatever method you prefer, just be sure your information is backed up and retrievable. For more information on backup methods, see "When In Doubt, Back Up" on page 49.

One issue you should be aware of concerns SATA (Serial Advanced Technology Attachment) drivers, which you may need to install during setup in order for Vista to recognize your SATA hard drive properly. Refer to the "Hard Drive Drivers" sidebar for more information.

Installation

Pop the Vista installation DVD into the disc drive and reboot the computer. You may need to set your computer to boot from the DVD. To do

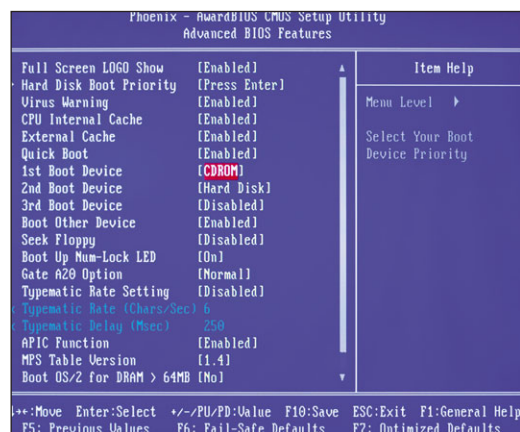
this, you will need to enter the BIOS (Basic Input/Output System). As the computer reboots, repeatedly press the DELETE key or another specified key to get to the BIOS; from the BIOS, you can configure your computer to boot from the installation DVD instead of from the hard drive. Your PC's BIOS may have a slightly different interface than the BIOS in our test machine, but the differences likely won't prevent you from successfully following these instructions.

You typically won't be able to use your mouse in the BIOS, so all navigation must be done with the keyboard. Using the arrow keys, move down and highlight Advanced BIOS Features and press ENTER. On the next screen, move down and highlight First Boot Device. This most likely will be set to Hard Disk. Press ENTER, select CDROM (or the name of the DVD drive device, if applicable), and press ENTER again. You have now configured the computer to boot from the installation DVD. Press F10 to save your changes and press ENTER when prompted.

Now the computer will reboot. During the boot process, you'll be prompted to Press Any Key To Boot From CD Or DVD. Be sure you do so in a timely manner; if you wait too long, Windows will assume you don't

want to boot from the disc and will move on to the secondary boot option (which is the existing Windows installation). It's not a huge problem if you miss the prompt—you'll just have to reboot.

When Windows finishes loading files, you'll see the first Install Windows screen. Select your preferred language for installation, the time and currency format, and the type of input method you prefer. Click Next and then click the Install Now button on the next screen.



Before you can install Windows Vista, you may need to change the boot order in the BIOS so that the computer boots from the installation disc instead of the hard drive.

Startup Repair

Windows Vista has some solid options for repairing your computer. For one thing, there is a bevy of system recovery options that you can access from the Vista installation DVD. (On some computers, these options may be preinstalled, or your computer manufacturer may have provided other recovery options. Refer to your users manual or go to the manufacturer's Web site for more information.)

You can reach the System Recovery Options menu by booting from the Vista DVD and clicking Repair Your Computer on the Install Now screen. These options include Startup Repair, which automatically searches for and attempts to solve problems with your computer; System Restore, which lets you reset your computer to an earlier point in time; Windows Complete PC Restore (included with Vista Business and Vista Ultimate) to completely restore your computer; the Windows Memory Diagnostic Tool, which checks your computer for hardware errors; and Command Prompt, from which you can perform line commands. ■

Enter the product key when prompted. (Although your product key includes dashes, you won't need to enter them. The Product Key field enters those automatically as you type.) Click the Next button. Select the checkbox next to I Accept The License Terms and click Next again.

Click Custom (Advanced) when the What Type Of Installation Do You Want? window appears. The next screen (Where Do You Want To Install Windows?) lets you choose the hard drive (and hard drive partition) onto which you'll install the operating system. If you have one hard drive with only one partition, your options

are fairly straightforward: Select that drive. If you have multiple partitions or drives, you'll need to determine which drive has the existing Vista installation. In some cases, this is the hard drive partition that has the highest storage capacity.

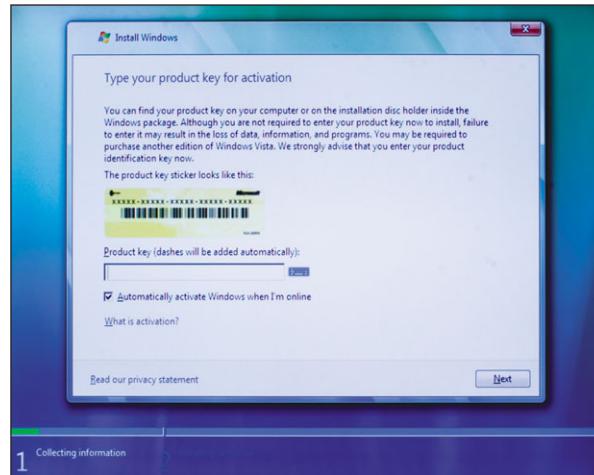
Now that you've selected your partition, you're ready to format it. Formatting wipes all of the data from the partition so you can install a clean copy of Vista that is free of the junk files and malware that are causing your old Windows installation to run so slowly.

While still on the Where Do You Want To Install Windows? screen, click Drive Options. The lower third of the screen now displays icons for hard drive tools that let you load drivers, delete partitions to free up more space on your hard drive, and create new partitions.

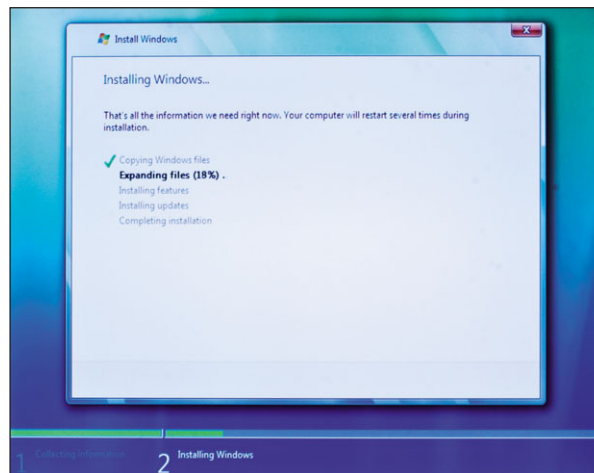
This area also has a Format icon. Click Format and then click the OK button when a message warns you that formatting deletes all of the data on the system. The installation process will format your hard drive's partition, removing all files (both good and bad).

Once the format completes, you are ready to install the SATA drivers (if you've determined that you need them). Click Load Driver and (when the Load Driver window appears) insert whatever medium on which you saved the drivers (floppy diskette, CD, DVD, or flash drive) into the PC.

Click the OK button. Windows will search your drive or disc for the appropriate drivers. If it doesn't find the drivers, click the Browse button on the Load Driver window to open the Browse Folder window. Use this window to navigate to the appro-



Be sure you have your product key handy. This number will be on the disc or the computer case itself if you purchased the computer as a whole system.



Just sit back and be patient while Windows copies and installs files, features, and updates.

ropriate files. Click OK. The driver appears in the Select Driver To Be Installed window. Click the Next button.

At this point, you'll see the Where Do You Want To Install Windows? screen again. Select the partition that you formatted earlier and then click the Next button.

Sit Back & Relax

You won't need to take any action when the next screen appears. It's the Installing Windows screen: It displays

a list of tasks that the installation is running, including Copying Windows Files, Expanding Files, Installing Features, Installing Updates, and Completing Installation. Throughout this process, your computer will restart a few times. All you need to do is sit and wait for the process to complete. Now might be a good time to go get some coffee or a snack.

After awhile, you'll be greeted by a window that will ask you to set up a username and password. Enter whichever name and password combination you desire and then retype the password to confirm it. You also have the option of entering a hint in case you ever forget what your password is. You'll also find that you can select a picture that represents your account. Don't worry if you don't see a picture that matches your sense of style: You can change the account's picture whenever you'd like once the installation completes. When you're finished with all the options on this screen, click Next.

Now, you need to create a name for your computer so it can be recognized on a network. The name should be short and clear. For example, if

this is your home computer, you might call it Home or Home-PC. At this time, you also can select a Desktop background. (You can change this later if you desire.)

Click Next to advance to the next screen and click Use Recommended Settings. Set the time and date and click Next. Choose your computer's location; this helps Windows configure network settings. If this is your office computer, for example, you'll most likely want to select Work, because then other computers on your office network can recognize your

Hard Drive Drivers

For most home computers, hard drives come in two interfaces: SATA (Serial Advanced Technology Attachment) or IDE (Integrated Drive Electronics, also known as ATA). IDE is the older of the two, and although IDE drives are still common, SATA hard drives are abundantly used.

Because SATA was introduced well after Windows XP, there were some issues regarding native WinXP support for SATA. Often, motherboards needed the SATA drivers installed separately during an installation of the operating system. Eventually, most Intel-based motherboards added native support for SATA, so no extra drivers were needed. However, most AMD-based motherboards were slow to support SATA natively, so many AMD boards still needed the SATA drivers installed separately.

Windows Vista has built-in support for many devices, including SATA hard drives, so odds are you won't have to deal with this issue when installing the operating system. However, depending on the age of your hardware, you may find upon inspection of your hard drive in the BIOS (Basic Input/Output System) that your SATA drive is listed as an IDE drive.

This isn't much of a problem—the performance will be fine, and for all intents and purposes, it's just a matter of semantics. (In fact, unless you've just read the preceding

sentences, you might never have noticed.) The reason for it is that many motherboards have what's called a "legacy mode" or "IDE mode," which grants you the ability to install an operating system on a SATA hard drive without having to install drivers. This makes the installation of an operating system easier.

However, if you want to ensure that every single feature afforded by your particular SATA drive is enabled, you should locate and install the SATA drivers for your motherboard. Be aware that this is impossible for some motherboards if their manufacturers stopped supporting them; if that's the case, even the most recent drivers may not include SATA support.

If you do need to install drivers during installation, visit your motherboard manufacturer's Web site and find your particular model. Download the latest BIOS updates and search for any SATA drivers. Download and save them to a removable storage medium such as a flash drive, floppy diskette, CD, or DVD.

When you perform the installation, wait until you reach the screen where you select the drive or partition where you want to install Vista. Click Load Driver and navigate to wherever you saved the drivers. Select the files you want to load and click OK. ■

computer, and you can "see" other computers and network devices, such as printers. Make your selection and click Start.

Now, you'll wait for Windows to do its thing. In a few minutes, you'll

be greeted by the Welcome Screen. Enter your password and log in. Congratulations—you've just reinstalled Vista.

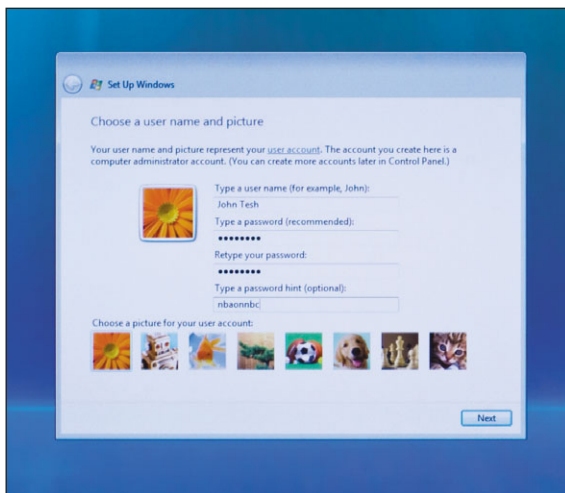
Don't Forget

Once installation is complete, you should reset the boot order in the BIOS so that the computer boots from the hard drive instead of from the installation disc. Remove the installation DVD and reboot. Access the BIOS as before and use the arrow keys to move down and highlight Advanced BIOS Features. Press ENTER, and on the next screen, move down and highlight First Boot Device.

Press ENTER, select Hard Disk, and press ENTER again. You have now reconfigured the computer to boot from the hard drive. Press F10 to save your changes and press the ENTER key when prompted.

Also, despite your best efforts at saving all your device drivers and even with Vista's native support of a large number of devices, there's a good chance you may need to manually download and install some Vista drivers in order for your hardware to run properly. Make sure your motherboard has the latest BIOS updates and drivers. Graphics cards, hard drives, and other peripherals such as printers may also need to be updated. To take full advantage of your clean install of Vista, visit your device manufacturers' Web sites to locate, download, and install what you need. ■■

BY SETH COLANER



Choosing a username and password is one of the last steps before installation is complete.



HOW TO REINSTALL WINDOWS XP USING YOUR DISC

If you've got a bunch of junk programs and unnecessary files that have accumulated on your computer over time and are choking the computer's performance, reinstalling Windows is a way to get rid of them and start fresh. A clean installation often solves any problems you may be having with your OS (operating system) because it overwrites the original OS installation and all files, folders, settings, and applications. Essentially, it takes your computer back to square one. In this article, we'll guide you step-by-step through the process of reinstalling Windows XP.

Preparation

You'll need your original WinXP installation CD and the product key.

(The product key can be found on the disc itself or on the outside of the computer case.) You also need to have all the installation discs for your applications on hand. If you don't have the installation discs for programs you downloaded from the Internet, save the .EXE files onto a flash drive or to a CD before you perform the reinstallation. It's also a good idea to save any application updates or device drivers you've installed to a flash drive or CD. That way, you won't have to worry about manually tracking down all of them again.

An easy way to back up everything is to use backup software and an external hard drive. External hard drives typically plug into your computer's USB port and either draw power from the PC itself, or from a separate power source. Many backup applications can

backup your data regularly. Most programs let you choose a schedule (every other night, for example), so you don't have to perform tedious manual backups very often.

You can back up your entire PC, including the OS. Another popular option is to just back up certain files and folders by dragging and dropping them onto an external hard drive, or if it all fits, onto a flash drive. The main thing to keep in mind is that your data needs to be retrievable. (For more information on backup methods, see "When In Doubt, Back Up" on page 49.)

In addition, some WinXP systems will need SATA (Serial Advanced Technology Attachment) drivers installed in order for your SATA hard drive to work properly. See the "Hard Drive Drivers" sidebar for more information.



Remember when the Windows Desktop was so clean? A fresh WinXP installation will bring back the good times.

Installation

Insert the WinXP installation CD into the disc drive and reboot the computer. As the computer reboots, continuously press the DELETE key to get to the BIOS (Basic Input/Output System) where you can configure your computer to boot from the installation CD instead of from the hard drive. (Note that every PC's BIOS is a little different and these are meant to be general instructions on how to access and navigate the BIOS.)

You likely won't be able to use your mouse in the BIOS, so all navigation must be done with the keyboard. Press the Down arrow to highlight Advanced BIOS Features and press ENTER. On the next screen, use the Down arrow to highlight First Boot Device. This most likely will be set to Hard Disk. Press the ENTER key and select CDROM (or the name of the CD drive device, if applicable), and press ENTER again. The computer is now configured to boot from the WinXP disc. Press F10 to save your changes and then press ENTER at the prompt.

Now, the computer will reboot. At some point in the boot process, you will be

prompted to Press Any Key To Boot From CD Or DVD. Pay close attention because this message only appears on-screen for a few seconds; if you wait too long, Windows will assume you don't want to boot from the disc and will boot your existing copy of Windows. If you miss the prompt, you'll see the Windows logo. At this point, you'll just have to reboot the computer again.

As soon as Setup starts, you can press F6 (when prompted) to install hard drive drivers, such as SATA drivers.

When Windows finishes loading files, you'll see a Windows Setup screen that looks much like an error message. It warns you that it can't identify the PC's storage devices (hard drives). Press the S key, pop the floppy (which has the SATA drivers) into the floppy drive, and then press ENTER.

Windows Setup will then display all of the drivers on the floppy. Use the arrow keys to select the WinXP driver and press ENTER. Windows Setup loads the driver and then displays its name. Press ENTER again.

At this point, you'll see a Welcome To Setup message. This screen offers several options, including To Set Up Windows XP Now, Press ENTER. Go ahead and press the ENTER key.

When presented with the licensing agreement, press F8 to accept. (If you

```

Windows XP Professional Setup

Welcome to Setup.

This portion of the Setup program prepares Microsoft(R)
Windows(R) XP to run on your computer.

• To set up Windows XP now, press ENTER.
• To repair a Windows XP installation using
  Recovery Console, press R.
• To quit Setup without installing Windows XP, press F3.
  
```

After Setup loads the files and drivers, you'll see the Welcome To Setup screen.

Windows Repair

Although a clean install is a good way to eliminate errors on your system, it's a somewhat drastic measure: It's time-consuming, requires a good deal of preparation, and ultimately takes you back to square one in terms of your preferred settings and customizations. Before you try a clean install to fix a problem, try using Windows Repair, often called a repair installation.

Windows Repair is built into your WinXP installation disc. To access it, begin as you would to perform a reinstallation. Press ENTER when you get to the Welcome To Setup screen, press F8 to accept the EULA (End-User License Agreement), and press R when given the opportunity to run a repair installation. This function essentially allows you to fix your computer by overwriting only the OS—not your files, folders, and applications. Follow the on-screen instructions and prompts to perform a repair. ■

want to read the whole agreement, you can press PAGE DOWN.)

The next screen will display any versions of WinXP you already have installed on your system.

(NOTE: If you want to simply replace Windows' main system files without wiping all of your data from the hard drive, you can take advantage of the Repair option here. See the "Windows Repair" sidebar for more info.)

To continue the clean installation and remove the old version of WinXP, press the ESC key.

The next screen displays all of your system's hard drives

Hard Drive Drivers

Generally, home computer hard drives come in two interfaces: SATA (Serial Advanced Technology Attachment) or IDE (Integrated Drive Electronics, also known as ATA). The IDE interface is the older of the two, and IDE drives are still common; however, SATA hard drives are more widely used.

With the enduring use of Windows XP, which was released before the SATA interface became widely adopted, a problem arose: Many motherboards needed SATA drivers installed to fully support SATA hard drives. Many motherboard chipsets released after SATA became popular, namely those manufactured by Intel, added native support for SATA, so this problem was averted. AMD motherboards, however, took longer to adopt the same level of support.

The result is that older AMD motherboards often require you to download and install SATA drivers for the motherboard before your SATA hard drive has full functionality. (Newer AMD boards don't have this issue.) Even if you experience no problems or errors during installation, your motherboard may list your SATA hard drive as an IDE drive in the BIOS (Basic Input/Output System).

In practice, you probably won't notice any problems with performance—or any other errors, for that matter—thanks to “legacy mode” or “IDE mode,” which is a feature of some motherboards that allows you to use a SATA hard drive without having to first install drivers. This alleviates headaches with the installation process to be sure, but if you want to ensure that every feature of your SATA drive is usable, you should still download and install the SATA drivers. Of course, manufacturers stop supporting older boards at some point, so even the most recent drivers may not support SATA in some cases.

If you do need to install drivers during installation, visit your motherboard manufacturer's Web site and find your particular model. Download the latest BIOS updates and search for any SATA drivers. Download and save them to a removable storage medium such as a flash drive, floppy diskette, CD, or DVD.

When you perform the installation, press F6 repeatedly as soon as Setup begins. When prompted, select the storage device containing drivers, select the requisite drivers, and press ENTER. ■

and hard drive partitions (distinct storage areas on the hard drives). Here, you have several options, including To Set Up Windows XP On The Selected Item, Press ENTER.

The next screen will warn you that you shouldn't install two operating systems on the same partition. Don't be alarmed—you aren't going to have two OSes installed. Rather, you're going to replace the existing one. Press the C key to continue.

The following screen gives you the option of formatting the hard drive. We recommend formatting your drive, as it wipes all of the data from your PC so you can start with a clean slate. Not formatting invites the sort of problems that the earlier warning

screen discusses. To format the partition, use the arrow keys to highlight Format The Partition Using The NTFS File System. Then, press the ENTER key.

The next screen includes another warning: Caution, Formatting This Drive Will Delete All Files On It. Go ahead and press the F key to start the format.

Once the format completes, the installation of your new copy of Windows begins.

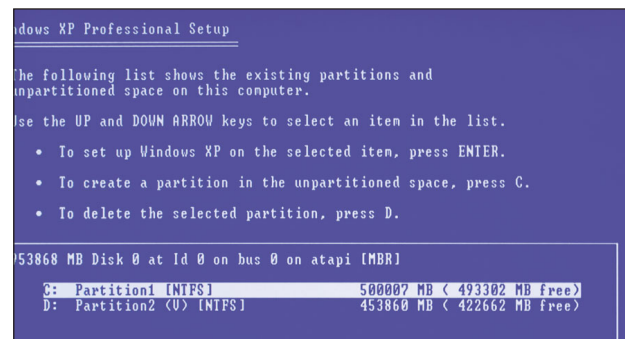
When Windows finishes copying all the files, your computer will automatically reboot and continue the installation process. Note that on the left side of the screen, several steps are listed. The first three have been completed already and will have radio buttons that are selected. The pending step is Installing Windows, while the Final Installation step hasn't yet begun.

After awhile, you'll be prompted to select Regional And Language Options. Note that the default format is set to English (United States), and the default location is the United States. (If this is not the case, click Customize to change the settings.) The default text input is U.S. Keyboard Layout. If this is not the case for you, click Details to change it. Click Next to advance to the next screen.

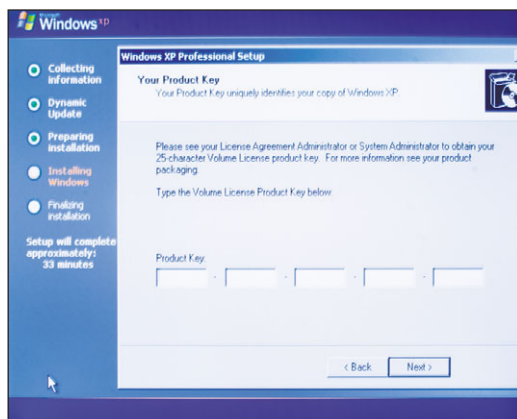
When the Personalize Your Software screen appears, enter your name in the text field and fill in the Organization text field, if you have an organization to identify with. Click Next.

The Your Product Key screen appears next. Enter your product key in the provided text fields. (You should have already written this number down.) When you have finished entering the product key, click Next.

The next screen lets you choose a name for your computer that will identify it on the network. Enter the name (or don't, if you like the name Windows suggests) and then click the Next button.



Choose which hard drive or partition on which to install Windows XP. From this screen, you can also create or delete partitions.



Be sure you have your WinXP product key ready; you can find this number on the disc or, in some instances, on the computer case itself.

The primary user account for a computer is the Administrator account. This is the one from which you can change settings, install or uninstall applications, and more. Enter the password of your choice in the text field and then enter it again to confirm. Click Next to continue.

When the Date And Time Settings window appears, verify that the date, time, and time zone are accurate and click Next. On the next screen, you can select Typical Settings or Custom Settings to configure your network settings. Unless you know what steps to take in terms of configuring network settings, choose Typical Settings and click Next.

If this is your home computer, select No, This Computer Is Not On a Network. Even if you have a home network, select this option; you can enter the name of the Workgroup you have at home. Otherwise, leave that text field alone. If this is your office computer, you'll choose the other option, but you may need to contact your network administrator for the appropriate information. Make your choice and click Next.

Wait while the Windows installation completes. The computer will restart automatically during this step. When the computer reboots, you may receive a prompt informing you

that Windows will automatically adjust your screen resolution. Click OK, and click OK again if you can read the provided on-screen text.

Set Up The Computer

Now, it's time to set up the computer. Click Next to get started. Select Help Protect My PC By Turning On Automatic Updates Now and click Next. (This will ensure that your computer gets all the necessary updates from Windows automatically.) At this time, you can set up accounts for

everybody who will be using this computer. You must create a username for yourself, but you can add the other users later if you wish. Enter your chosen username and select Next. Click Finish, wait for Windows to finish loading, and take a look at your new WinXP installation.

Don't Forget

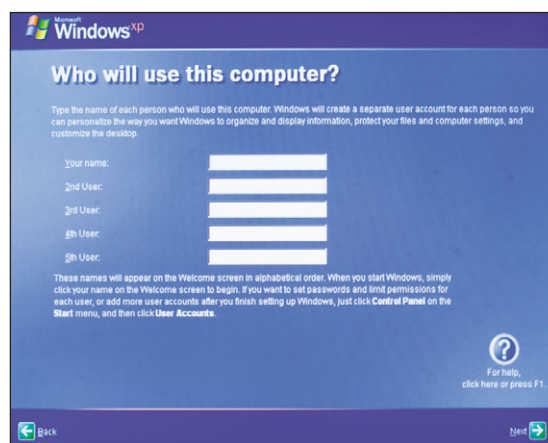
Once installation is complete, you should reset the boot order in the BIOS so that the computer boots from the hard drive instead of from the installation disc. Remove the installation CD and reboot the PC. Continuously press the DELETE key while the computer reboots until you reach the BIOS screen. As before, use the arrow keys to move down and highlight Advanced BIOS Features. Press ENTER, and on the next screen, move down and then highlight First Boot

Device. Press ENTER, select Hard Disk, and press ENTER again. You have now reconfigured the computer to boot from the hard drive. Press F10 to save your changes and then press ENTER when prompted.

Even the most diligent computer user can miss a software driver or device driver or two when performing a reinstallation—you may yet need to track down a few manually. Be sure your motherboard, graphics card, hard drive, and peripheral devices have all the latest updates.

Enjoy your fresh start. ■

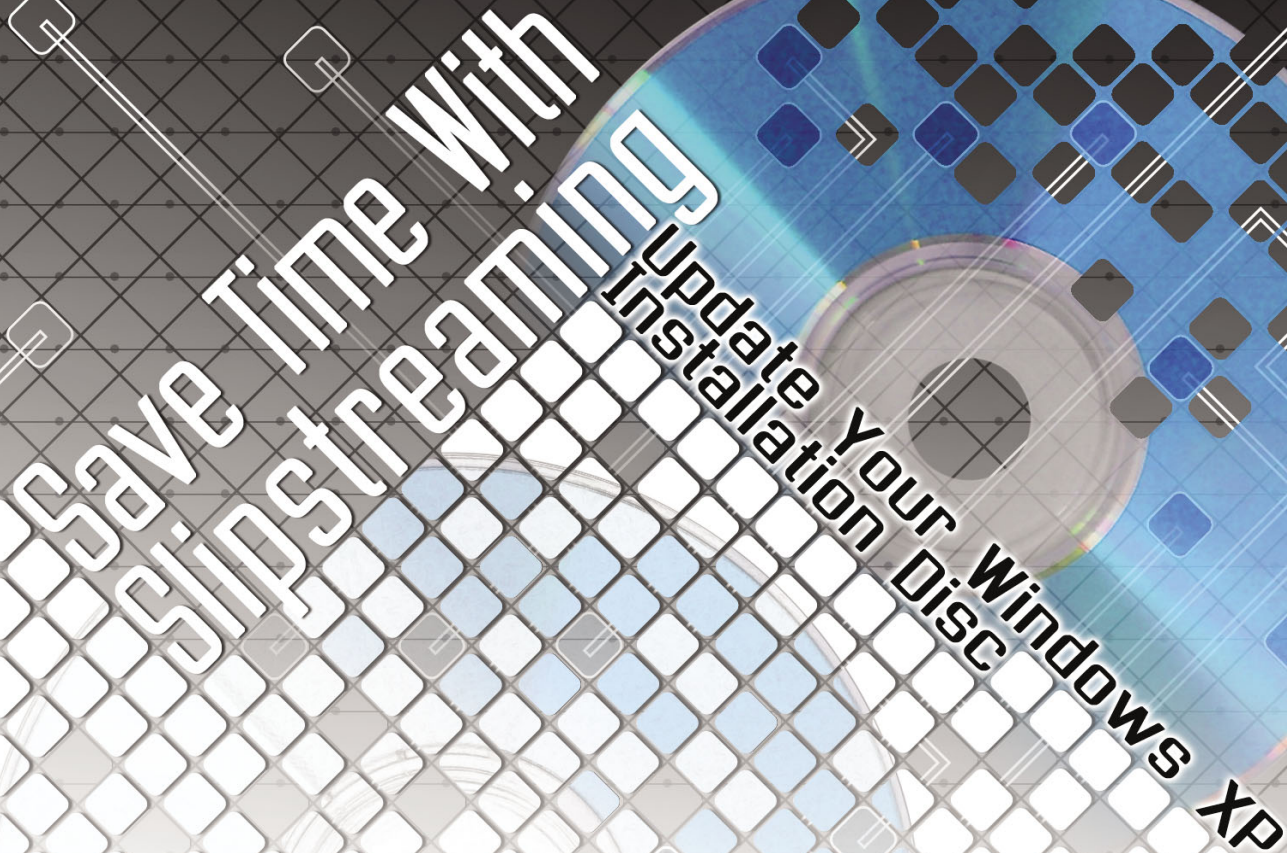
BY SETH COLANER



During setup, you create User Accounts for just about everyone in the family.



When you see the WinXP logo, you know the installation process is nearly complete. Welcome to a clean Windows.



Save Time With Slipstreaming

Update Your Windows XP Installation Disc

Windows XP is more than seven years old, and it has undergone quite a few changes since its release. One of the most significant updates to the OS (operating system) was SP2 (Service Pack 2), which tweaked numerous features and substantially enhanced the operating system's security. If you have to reinstall a pre-SP2 version of WinXP, you will be measuring installation time in hours, not minutes, as Windows Update must reinstall over 100 updates in a multi-stage, multiboot process. Getting your system updated to SP2 isn't just a good idea—it's a must. Your PC will be exceptionally vulnerable to Internet miscreants until you have it in place. Furthermore, some newer software won't work properly—or at the minimum, will nag you repeatedly—if you

install it on an earlier version of WinXP after you have run it under WinXP SP2.

Fortunately, if you have an Internet connection and a basic CD burner, you can create an integrated WinXP Setup CD that is updated to SP2. This type of CD, called a slipstreamed installation disc, saves you the hassle of the subsequent upgrade. You can also create a slipstreamed version of WinXP with just SP1 (Service Pack 1) if for some compelling reason you do not want SP2. For that matter, Microsoft has released WinXP Service Pack 3 (May 2008). SP3 is not a critical update, so you don't have to install it. However, it will include all the updates since SP2, so there is a benefit to slipstreaming it into your WinXP installation.

Even if you want SP3, it's best to have SP2 in place—or a WinXP CD

containing SP2—in order for SP3 to install properly. Consequently, we'll provide instructions for upgrading to SP2 in the main article, and we'll offer assistance with slipstreaming SP3 in the sidebar, "A Different Stream." We'll also touch on slipstreaming Windows Vista's Service Pack 1. Note that if you purchased WinXP (or a computer installed with it) in 2005 or later, the CD likely includes SP2, and you don't need to perform this task. You can still create a slipstreamed SP3 CD, however, if you wish.

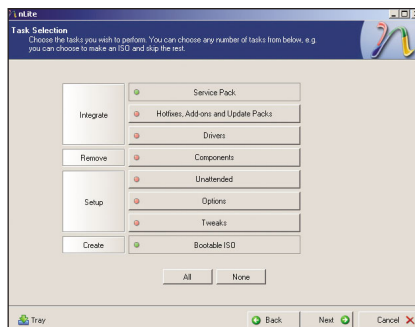
First Things First

To begin the slipstreaming process, create three folders on the hard drive (usually C:). This does not have to be the PC on which you will install WinXP SP2; you simply need to use a

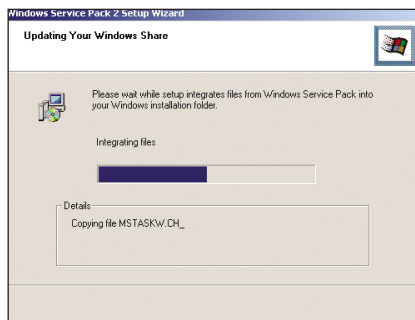
functioning PC with a CD burner. The first folder will hold the contents of the original WinXP CD, and the second will hold the executable SP2 files. The third folder will hold a special file, called a boot image, that will enable you to start a crashed or new PC with your new setup CD. This third step is optional (more about that later), but create the folder just in case. Assign meaningful names to the folders so you can distinguish between them and consider using the same first few letters for all three so they will be grouped together. We'll call our folders WINXP, WINXP-SP2, and WINXP-BOOT.

At Your Service

Now, it's time to locate Windows XP SP2. You won't need to download any updates prior to SP2, because Microsoft rolled all pre-existing updates into the single SP2 release. However, downloading SP2 is a bit tricky. You cannot



nLite is a free program that automates the process of creating a slipstreamed WinXP SP2 or SP3 CD.



During slipstreaming, a software update wizard will keep you apprised of the status.

The Windows XP Service Pack 2 Network Installation Package For IT Professionals And Developers file is the download that will enable you to slipstream a WinXP SP2 CD.

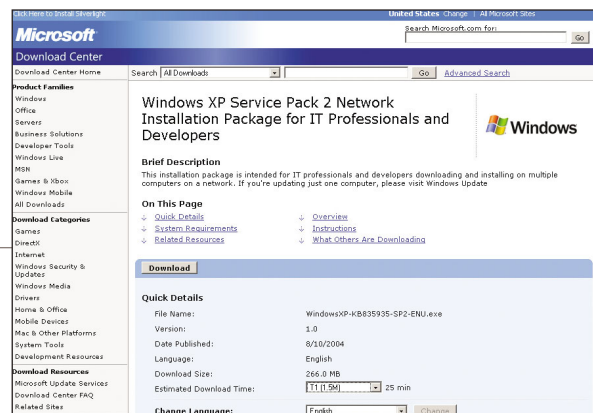
navigate to Windows Update, especially if the PC where you are creating the CD is a Windows Vista machine or an early version of Windows. Instead, you must locate a download of the executable SP2 file itself.

You can find the download SP2 directly from the Microsoft Download Center. Go to www.microsoft.com/downloads. In the second (right-hand) Search dialog box, type **Windows XP Service Pack 2** and click Go. Look for the download titled "Windows XP Service Pack 2 For IT Professionals And Developers" and click it.

When the site appears, click the Download button and a prompt will appear enabling you to download WindowsXP-KB835935-SP2-ENU.exe. In the dialog box that appears, click Save and navigate to the WINXP-SP2 folder to save the file.

A Fork In The Road

Once the 266MB download completes, you'll extract the file and then integrate (slipstream) it with WinXP. You can do this with MS-DOS commands using the Run feature on the Start menu, but it's easier to let another program do it for you. A free program, nLite (www.nliteos.com), can copy the contents of your WinXP CD to the WINXP folder, slipstream your installation with the file inside WINXP-SP2, and, if you desire, help you create a bootable CD of the finished product. nLite can also tweak your Windows installation, adding drivers, removing components, and more. Microsoft doesn't support the program or custom installations created with it, so we



recommend this type of tweaking only for advanced users.

Before you proceed, you can decide whether to create a bootable installation CD. (You can also handle this task later using your slipstreamed WinXP SP2 files as the source data.) If you perform just the slipstreaming, you will be able to burn the slipstreamed files to a CD for use reinstalling WinXP SP2 on any functioning PC or one where you can enter basic setup mode (usually by pressing F1 during startup). You can also use the contents of the WINXP folder to reinstall WinXP to another computer over a network, or you can copy the contents to a USB flash drive for use with a system that lacks a CD drive. (We tested them all, and every option worked.)

You do not need a bootable CD to perform a clean install of WinXP SP2. During installation, elect for a new installation rather than an upgrade and WinXP will take you through a different process. However, if you want the CD to enable you to boot your PC, nLite can perform that task after it does the slipstreaming. If you create a bootable ISO file, you will still have the integrated files, as well, letting you choose multiple installation paths, if desired.

Slipping Into The Stream

To perform the slipstreaming, download and install nLite. Next, place your WinXP CD in your optical drive; exit the setup screen if it appears. Now, open nLite and select your language. Click

A Different Stream

Slipstreaming is a process Microsoft designed to help corporate customers perform updated installations on large numbers of computers easily. The process has been around for quite a while, so you can slipstream many versions of Windows (and many Service Packs of Windows XP). nLite can slipstream SP1; you'll need to obtain the patch at a third-party site (www.softwarepatch.com/windows/winxpsp1 is one option) and run it through the processes described here.

The same is true of SP3, which you can slipstream into a later WinXP CD or into your new slipstreamed version of WinXP SP2. To slipstream SP3 into your SP2 CD, create two new folders on your hard drive (C: drive). You can name them WINXP-SP2CD and WINXP-SP3. Go to www.microsoft.com/downloads to download Windows XP Service Pack 3 and then follow the processes we described. We don't recommend you go directly from an older WinXP CD to SP3. In its Knowledge Base article on SP3, Microsoft points out that users do not need to install SP2 before installing SP3 but states that installation of WinXP SP1a or SP2 is a prerequisite to installing SP3. This is because SP3 includes more stringent validation software, making it difficult to successfully slipstream an original WinXP CD straight to SP3. Microsoft also offers an ISO file of SP3, but we have not tested it so we won't discuss it here.

To slipstream Windows Vista, users need vLite (www.vlite.net), a Vista-compatible version of nLite. (Download Windows Vista Service Pack 1 Five Language Standalone from the Microsoft Download Center.) vLite works a little differently from nLite—read the documentation on the site before you begin. Microsoft has indicated that it will incorporate slipstreaming media into the Vista retail CD, but at press time, that was not the case to our knowledge. ■

If you are making a bootable CD, look for an ISO Disc Image option in your CD burner.

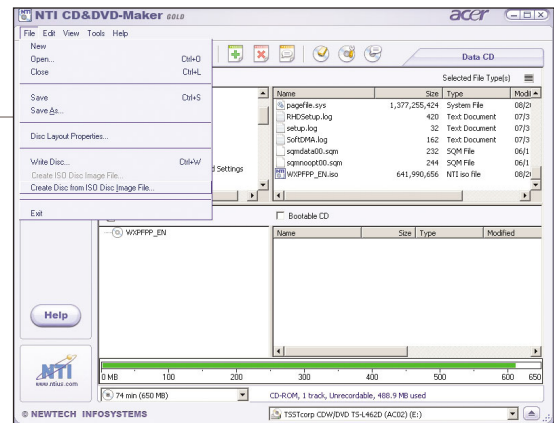
Next and on the Locating The Windows Installation screen, click Browse. Navigate to the drive where you inserted the WinXP CD and click Next. When nLite prompts you to identify a location for the setup files, navigate to the WINXP folder. Click Next and wait for nLite to copy the setup files. Then, click Next two more times to reach the Task Selection screen. To slipstream only, click Service Pack (next to Integrate). If you want to slipstream and create a bootable ISO file, click both Service Pack and Bootable ISO (next to Create). Click Next and then click Select to navigate to the SP2 file you stored in the WINXP-SP2 folder. Click Next, and nLite will perform the integration.

nLite merely automates the processes inherent in Windows, so you will also see a software update installation wizard showing the process of the integration. If a message appears indicating the files cannot be integrated, you are likely using an OEM (original equipment manufacturer) version of WinXP that has been altered, possibly with update files and add-ons. You will not be able to perform the operations described in this article without obtaining a clean WinXP Setup CD.

Get Burned

Once nLite completes integration, a Service Pack 2 Setup dialog box will pop up stating, "Integrated Install Has Completed Successfully." Click OK to close this dialog box. You now have an updated (through SP2) copy of WinXP in the WINXP folder. Click Next. If you only wanted slipstreamed files, click Finish.

If you are making a bootable disc, nLite's Bootable ISO dialog box will appear. Rename the volume label to



match that of the WinXP CD you copied previously (it should still be in your CD drive). For WinXP Home, the label is likely CD WXHCCP_EN. For WinXP Professional, it is probably CD WXPFPF_EN. Click Make ISO and navigate to the WINXP-BOOT folder; rename the file name to match the volume label and then click Save. After nLite completes the process, click Next and then click Finish.

Now, you can use your favorite CD burning program to create a new installation CD. If it will be nonbootable, opt to create a data CD, making sure to include all the files inside the WINXP-SP2 folder when you burn the disc. If you created an ISO file, look for a Create File From ISO Disk Image File (or similar) in your burning program. If you do not see one, burn a data file in the normal manner. In either instance, the only file you will need to burn is the single ISO file in the WINXP-BOOT folder.

Once burning is complete, open My Computer as detailed earlier and look for your CD drive. If you have burned all the files correctly, your PC will recognize the newly burned CD as a Windows Setup CD. When you insert the CD in any functioning computer, the Welcome To Microsoft Windows XP setup screen should appear. If it does not, open My Computer and double click the Setup CD. You can then install WinXP SP2. ■

BY JENNIFER FARWELL

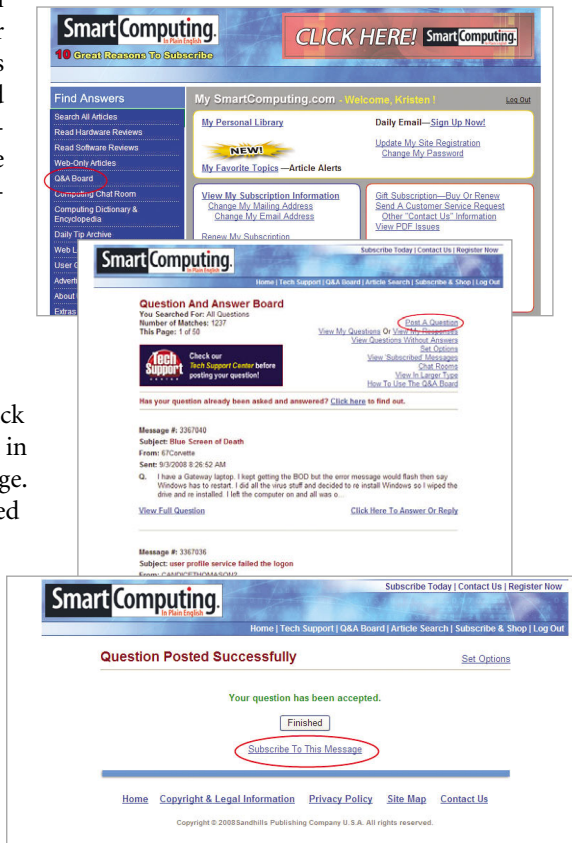
Q&A Board

Computers are great when they're running properly. But when you have a computing problem, finding answers can be frustrating. So if you're having trouble or can't find a solution to a computing question or problem, consult the *Smart Computing* Q&A Board. This subscriber-only feature is a great resource for getting quick and helpful responses to your computing problems.

Before posting a question on the Q&A Board, be sure to check out the Tech Support Center and all of its extensive resources including an error message database, solutions knowledgebase, and troubleshooting articles.

It may also be helpful to utilize the Q&A Board search at the bottom of the page, because, most likely, someone has had the same tech woes that you are experiencing. You can search by message number or keyword ("Windows XP," for example) and sort your results by relevance or a specific date range to make finding answers quick and easy.

1. Log on to SmartComputing.com and click the Q&A Board link.
2. To ask your question, click the Post A Question link in the upper right of the page. (Make sure you are logged in to the site.)
3. Use the Subscribe To This Message link at the bottom of the question to be notified via email when answers are posted.



Giving Thanks

In celebration of the Thanksgiving season, we searched www.smartcomputing.com for computer-related and electronic items for which we're thankful. "Email" made about 29,900 appearances, "antivirus" produced 3,340 results, and "digital camera" came up 1,610 times.



'Tis The Season For Shopping

According to comScore, consumers spent a total of \$29.17 billion online from November 1 to December 31 last year. Cyber Monday (the Monday following Thanksgiving) saw a total of \$733 million in online sales.



Spam

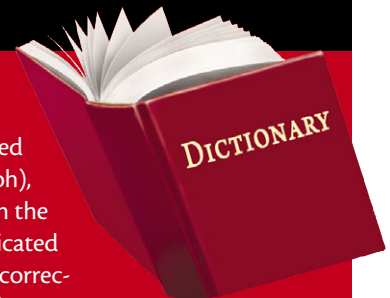
Along with holiday cheer, expect an increase in spam this month. Internet security provider TrendMicro predicts a seasonal spike in the unwanted email to correspond with the season.



From *Smart Computing's* Dictionary

version

A number used to indicate a program's stage of development. A new software version, indicated by product name changes such as WorkSmart 3.1 to WorkSmart 4.0 (pronounced four point oh), indicates that the software has been updated or improved. Major upgrades are indicated when the number before the decimal point changes, as in the previous example. Minor revisions are indicated by changes in the number after the decimal point (for example, 3.1 to 3.2). Small fixes, such as corrections of program flaws, are indicated by additional numbers or letters (as in 3.2 to 3.2.1 or 3.2a).



Online

Quick Studies
How-To

Organize Your Notes & Your Memory With Evernote

Evernote

Beginner

The modern-day equivalent of a stack of 3- x 5-inch note cards is here, and it can make your life, both online and offline, a little easier to manage.

Evernote (www.evernote.com) is billed as an extension of your memory. To-do items, notes, pictures, clips from Web pages and other documents, and more can be stored, sorted, searched, and accessed from almost any Web browser. You can upload data to Evernote using a wide variety of methods, and the service will even recognize text in photos so that you can search all types of notes for the words they contain.

Evernote won't store all types of files, at least not yet. At press time, the service accepts data in

Web page or section of a Web page that you want to save, simply click the bookmarklet. If you first select text and pictures from the Web page, the bookmarklet saves only the selected portion of the page.

You can also email files to a special Evernote address. Once the emailed notes arrive, the files are automatically added to your default notebook.

Desktop Software

Evernote also offers Windows XP/Vista and Mac desktop versions of the service that let you manage and create notes offline. You can download the software free from the Evernote site and then sync your online account with multiple desktops. A handy timeline feature lets you sort and view notes by the date they were created and then move the date selector around to quickly zoom through different days, weeks, or months.

If you have a Tablet PC, the desktop software also lets you jot down notes using your pen interface. Anyone who's tried Microsoft OneNote will quickly get the hang of it. Another nice feature of the desktop software is that you can set the program to automatically import files in a particular folder or mobile device.

Installing the desktop software also installs a Universal Clipper that sits in the System Tray for fast access to new notes. Highlight words in any document on your screen and then click the tiny Evernote icon to "clip" your selection into Evernote.

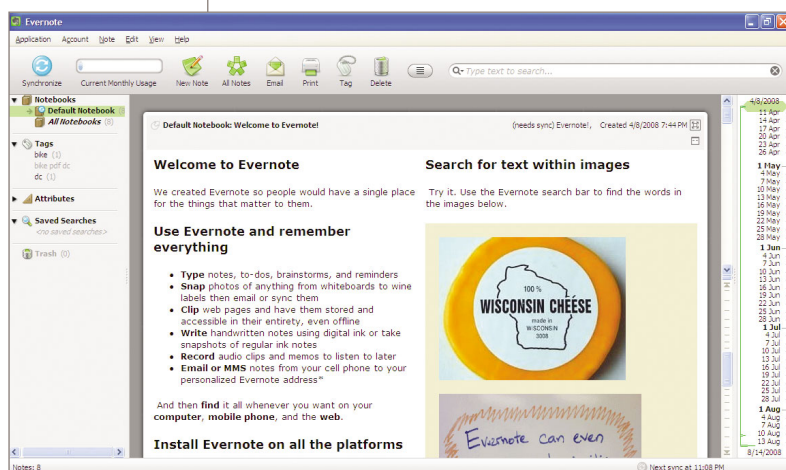
The desktop software makes it easy to import files into your notes with a simple drag and drop. This is probably the best way to quickly add many files to your notebooks.

Bigger Brain

Evernote lets you upload up to 40MB of data per month under the free plan. If you really do end up using the service as an extension of your brain, you might consider paying \$5 a month for the Premium 500MB plan.

With that kind of space at your disposal, how you use Evernote is up to you. Keep receipts, business cards, recipes, pictures—you name it. Organize with tags or simply rely on full-text searches and never forget anything again. ■

BY ALAN PHELPS



Evernote is a flexible, innovative organizer for notes, files, and information of all sorts.

text, HTML, JPEG, GIF, PNG, WAV, MP3, and INK (Evernote format) files.

Web Clipper

The easiest way to use Evernote when you're just starting out is to use the Web version, which you can access from most Web browsers. Simply head to the main Evernote site, sign in, and you'll see all of the notes you've created or imported. New, Edit, and Delete buttons let you create and manage notes. A Search box near the top of the screen lets you search your notes to find exactly what you want.

Along with typing notes from scratch, you can copy and paste text from the Web. Go to the Downloads page of the Evernote site and look for the Web Clipper bookmarklet. Drag or add the bookmarklet to your browser's bookmarks toolbar, and you're ready to clip. When you come across a

Corel Paint Shop Pro Photo X2

Introducing New Features & A New Interface

Image Processing

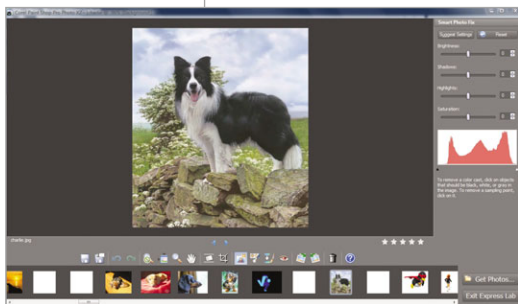
Beginner

WinXP/Vista

This month, we say a fond good-bye to Paint Shop Pro Photo XI and welcome the latest version of the software, Paint Shop Pro Photo X2. It's a very warm welcome, indeed, for version X2 introduces some fun and useful new features. Here's a quick overview of what you'll find.

A New Look

The first improvement you'll likely notice is the newly designed interface. We were a bit skeptical when we read about Corel touting its modification of the interface's colors, but after editing our photos against the darker, neutral gray background, we found it much easier to make accurate color improvements. (However, you can revert to the classic background at any time.)



The Express Lab is one of the features introduced in Paint Shop Pro Photo X2.

New Organizational Tools

Paint Shop Pro Photo X2 introduces a couple new features that make it simpler to work with your photos and other images. When you download a batch of photos to your computer from your digital camera or other device, you can scroll through the entire folder of images at once, rather than opening each one separately, thanks to the Express Lab feature. Thumbnails of each image appear at the bottom of the workspace, and you can scroll through them as you edit, delete, or add information to each one.

Another organizational improvement is the Save As tool, which now displays the most commonly used file formats at the top of the list.

Lastly, most of us have made the mistake of editing a photo, saving it, and then realizing that we have overwritten the original file. The Auto-Preserve tool lets you automatically create copies of original images the first time you open them.

New Editing Effects

One of the reasons we enjoy working with photo-editing software is that it allows us to enhance

photos that we couldn't quite capture "naturally" with our cameras. Consider, for example, a photo taken indoors with light streaming through a window. Some sections of the image may be overly dark, while other sections are too bright. We can't do much about this when capturing the image because of limitations inherent in cameras, but the HDR (High Dynamic Range) Photo Merge tool can adjust the highlights and shadows so that you see the clearest possible detail in a photo. You take two photos—one for the dark areas and one for the highlights—and the tool merges the two photos into one optimal photo.

On the other hand, sometimes you want effects that are anything but natural. The Black And White Film effect has been enhanced so you can use a wider range of shades, as well as adjusting brightness and clarity, to turn a color photograph into a black-and-white one. Or, you can remove the red from bloodshot eyes and lose some weight with the Eye Drops and Thinify modes of the Makeover tools.

New Sizing Features

It can be difficult to judge how large you should make an image when saving it. Too large, and it may take what seems like an eternity for a recipient to download a photo via email. Too small, and it may not be of high enough quality for inclusion in a brochure for your home-based business. The Save For Office feature helps take some of the guesswork out of this process. Choose the Screen Or Email option, and the 96dpi (dots per inch) image is most suitable for sharing via email or Web pages. Choose Desktop Printing, and the 200dpi image is of high enough quality for many applications. Or, choose Professional Printing, and the 300dpi image will produce an image suitable for inclusion in a magazine, such as *Smart Computing*.

Wait, There's More!

These are just a few of the new features found in PSP Photo X2. You'll also find upgraded crop tools, new layer styles, and visible watermarks, as well as other enhancements. We look forward to covering these features in depth in the upcoming months. ■

BY HEIDI V. ANDERSON

Microsoft PowerPoint 2007

Dates, Page Numbers & Other Housekeeping

Quick Studies

How-To

Presentation

Beginner

2007 for
WinXP/Vista

Anyone who steps up to a microphone and says, “I need to cover a few housekeeping matters” can usually plan on being drowned out by the sounds of shuffling papers and shifting chairs. But even if the conference bus schedule isn’t riveting, it’s essential info. Similarly, PowerPoint details such as date stamps and slide numbers may seem trivial—until you realize the bus left without you, and you don’t know when a slide was printed.

This month we cover some basic housekeeping matters slides frequently require. They’re worth studying for a few minutes before the real action of your PowerPoint show begins.

The Insert tab is the key to adding many of the informational items you’re likely to put on slides. The tab’s Text section includes a variety of buttons, but we’ll let you in on a PowerPoint secret: Many of them lead to the same dialog box. The Header & Footer, Date & Time, and Slide Number buttons all open the Header & Footer dialog box, which handles each of these jobs.

The first option is Date & Time. Check mark the box to add this information to a slide. Note the slide diagram in the bottom-right corner of the dialog box. The dotted boxes indicate where various pieces of information will appear on

slides. Clicking Date & Time, for example, fills in the box in the bottom-left corner of the diagram.

Add The Info

Radio buttons under the Date & Time box present a couple of options. Click Update Automatically to ensure the current date always appears on your slide. Use the drop-down box to choose the format for your date. If you want a certain date to appear on slides as a matter of record, choose Fixed and enter the date you want on the slides.

Now you can decide whether the new information appears only on the active slide (click Apply in the dialog box) or all slides in the presentation (Apply To All). To add the information to everything but the presentation’s first

slide, click Don’t Show On Title Slide at the bottom of the dialog box.

Slide numbers require little explanation. They work just like Date & Time in terms of positioning and which slides you can choose to apply them to. To change slide numbering, head to the Design tab and click Page Setup. In the Number Slides From box, enter the number you want to appear on the presentation’s first slide.

Type whatever text you’d like to appear at the bottom of the page in the Footer text box. Footers work well for things such as confidentiality disclaimers you want on each slide. Wondering where to add headers? Don’t look too hard, because there isn’t such an option. You can add headers only to notes and handouts pages. Click the Notes And Handouts tab at the top of the Header And Footer dialog box. The options here are like the ones we just covered. If you really want a header on your slides, though, read on for details about promoting a footer into that job.

Format The Info

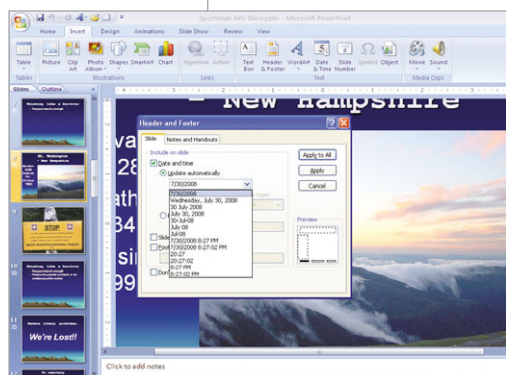
The look of elements added above is flexible. Want your slide number to be more visible? Highlight the text and bump up the font’s point size on the Home tab. Similarly, you can adjust the color and font of date stamps and footers.

These elements’ positions are adjustable, too. Click the text box holding the element and drag it where you want on the slide. Use this approach to place a footer at the top of a slide.

Keep in mind that these formatting adjustments apply only to the slide you make them on. If you apply the date to every slide, they’ll all appear in the default font until you manually edit them on each slide. The solution is adding information to the Slide Master. Click View and choose Slide Master. It has placeholders for each element covered above. Change any of these, and they’ll apply to every slide in the presentation built on that master. This is also the place to add extra information you want on every slide, such as dropping a company logo into the corner of the slides.

When you finish making changes, save them by clicking the Close Master View button in the upper-right corner. ■

BY TREVOR MEERS



The Header And Footer dialog box won’t actually let you put headers on your slides, but it does handle footers, dates, and page numbers.

Browsers

Quick Studies
How-To

Browse The Web In Full-Screen Mode

Firefox 3

Internet
Explorer 7

Intermediate

Sometimes, it's nice to have all the little doodads and commands that come with your Web browser. Other times, it would be nice to have an entire screen—especially for smaller laptop displays—dedicated to the Web site you want to view.

Internet Explorer and Firefox include a full-screen option that expands your browser window to fill an entire screen. No toolbars, tabs, window boxes, or other familiar elements get in the way. Especially useful is the fact that you can toggle full-screen mode on and off at the touch of a button.

Firefox

In Firefox 3, press F11 and the main section of the browser window expands to fill the monitor. The Status Bar at the bottom of the screen goes away, and the toolbars at the top are replaced by a thin line. Move your mouse pointer to the top of the screen, and the line expands to become a streamlined version of the main toolbar.

The Bookmarks Toolbar does not accompany the main toolbar to full-screen mode. You also won't see

the menu bar, which makes some commands inaccessible. Only the major buttons and the Address bar make the trip to the big screen.

Firefox 3 behavior is a bit different than full-screen mode in Firefox 2. The older browser keeps the location bar (Address bar) and tab bar (the main buttons) visible, while the newer

change to False. The streamlined toolbar will now stick around rather than roll up out of the screen. To switch back, just go to the same browser configuration entry and double-click it again.

You could also customize the main toolbar to include some commands that otherwise would be unavailable. Right-click the toolbar and choose Customize. A window will appear with several icon buttons, such as Print, Bookmarks, Copy, Paste, and more. Drag and drop buttons from the window to the toolbar. The most useful is probably the Bookmarks button, which will provide access to your favorite sites even when both the Bookmarks menu and Bookmarks Toolbar aren't visible.

Internet Explorer

Reach full-screen mode in IE7 by pressing F11, just as in Firefox. The browser window expands to fill the entire screen, and the toolbars disappear off the top edge of your monitor.

All of the IE toolbars, rather than an edited selection, appear when you move your mouse pointer to the top of the screen. There's no tiny frame or bar at the top of the screen as in Firefox. Keep moving the mouse up, and the toolbars will drop down.

IE's Status Bar does not necessarily leave the scene when full-screen mode is enabled. Click the View menu (or click the Tools button and then select Toolbars). If there's a check mark next to Status Bar, even full-screen mode will not cause it to budge.

To get a truly pristine screen, you'll need to remove that check mark by selecting Status Bar in either of these two menus. Of course, then the Status Bar is absent even when you return to the standard view.

Screen Scene

Using your browser in full-screen mode is also a great reason to brush up on keyboard shortcuts that don't rely on the presence of visible buttons or menus. One of our favorites, which works in both Firefox and IE, is CTRL-L. This shortcut places a cursor in the location bar, ready for you to type the URL of the Web site you'd like to see next. When you're finished with the full screen, press F11 again and everything returns to normal. ■■

BY ALAN PHELPS



Full-screen mode expands your browser to fill the entire monitor, banishing all toolbars and other elements off the edge of the screen.

version hides everything unless you move your mouse pointer to the top of the screen. If you liked seeing the location and tab bar at all times, you can customize Firefox 3's full-screen mode.

Type `about:config` into the Address bar and press ENTER. The browser window fills with a huge list of options. In the Filter box at the top of the screen, type `browser.fullscreen.autohide`. All of the configuration options but one should disappear. Double-click `browser.fullscreen.autohide` and the True value toward the right side should

Microsoft Excel 2007

Understanding Error Messages

Spreadsheet

Intermediate

2007 for
WinXP/Vista

Most of us understand Excel's error messages about as much as lights on a car's instrument panel. We know the "check engine" light is bad, but without visiting a mechanic, we really don't know what the light is trying to tell us. When Excel delivers a similarly ominous but inscrutable error message, you aren't doomed. Use the following tips to figure out what the messages mean.

Ask For Help

Asking Excel itself for help may sound like an obvious solution, but many people don't take this basic first step. The built-in Help feature provides surprising insight regarding the general language of error messages, as well as the meaning of specific problem alerts. Even pros rely on this avenue; we've seen professional software trainers open Help in class when students stump them with a question.

Start by opening the Help feature—click the question mark in the far right corner of the Office Ribbon—and typing in the error message you've received. (Excel's automatic Error Checking feature, which reviews every new formula for problems and flags trouble spots, can connect you to the same information. Click the flagged cell, the warning sign, and Help On This Error.)

If a cell produces a #REF! error, for example, enter that string of characters into the Help window's Search box and press ENTER. Sometimes, such a search isn't much help. Typing "####" into the search box, for example, produces an empty search.

A Help page addressing the error message will explain why the error occurs, such as filling you in about how a "#VALUE!" error stems from using the wrong kind of argument or operand. OK, maybe that's not the clearest explanation. But keep reading the Help page to find a list of possible solutions. One of these usually matches what you did wrong, such as the explanation that the "#VALUE!" error can crop up when you enter text in a spot where Excel looks for a number.

For a complete list of error message explanations, enter error messages into Help's search box

and press ENTER. For quick reference, here are seven errors that commonly crop up and their typical causes:

#N/A – A formula refers to a value it can't find. The formula is probably pointing to an empty cell.

#DIV/0! – A formula is trying to divide a number by zero.

#NUM! – Excel sees one of a formula's arguments as invalid, such as "\$500" when it can only accept "500."

#REF! – A formula refers to a missing cell.

#NAME? – Text is used incorrectly in a formula.

This could stem from referring to a named range that doesn't exist or using improper punctuation around a text string or workbook name included in a formula.

– The cell is not wide enough to contain the contents designated for it.

#NULL – A formula includes an improper reference to a range of cells.

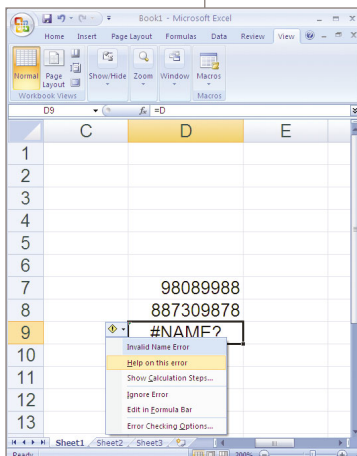
Create Custom Error Reports

Excel provides a few functions that let you handle errors your way. To customize the performance of the automatic formula checking feature, click the Office button and choose Excel Options. On the left side of the dialog box, click Formulas. The Error Checking section lets you turn the feature on or off, change the flag color, and reset the list of ignored errors. (For a full explanation of formula error checking, see the March 2007 Excel Quick Study.)

The IFERROR function lets you create a plain-English message that appears when errors occur. You can set up the function to evaluate specific cells, and if their formulas cause an error, show a text message that you've created such as "Error in formula. Please check the values." For more powerful custom error messages, look into the ERROR.TYPE function. It lets you tie specific text messages to specific errors, such as displaying "You cannot divide a number by zero" when a #DIV/0! error occurs.

One final tip on tracking down errors: You may find it easier to view cells that contain actual formulas rather than the results they produce. To see formulas, click the Show Formulas button on the Formulas tab. ■

BY TREVOR MEERS



When Excel flags a formula with an error message, click the warning sign beside it to jump to the Help file's explanation of the problem's common causes.

Microsoft Word 2007

Work With Bulleted & Numbered Lists: Part I

Word Processing

Intermediate

2007 for
WinXP/Vista

One of the more useful (if occasionally frustrating) features in Microsoft Word is the creation of numbered and bulleted lists.

It's useful because Word can create lists automatically or to exact specifications. It's frustrating because sometimes Word will start a list when you don't want it to. In this and next month's article, we will show you how to create basic lists and address some tricky situations.

Set AutoCorrect Options

One of the first things you should do when you need to create a list is to make sure Word 2007's AutoCorrect options are set the way you want. Click the Office Button, Word Options, and Proofing. Click the AutoCorrect Options button to bring up the AutoCorrect dialog box.

Click the AutoFormat As You Type tab. In the Apply As You Type area, make sure the options Automatic Bulleted Lists and Automatic Numbered Lists are checked if you want Word to automatically create lists. Afterward, if you decide you don't want Word to do this on its own, you can go back to this area and uncheck the boxes.

In the area below, Automatically As You Type, put a check mark in the box next to Format Beginning Of List Item Like The One Before It. We'll take a look at how this works later. Click OK to close the dialog box and click OK again to close Word Options.

Find The Paragraph Group

There are buttons for creating bulleted and numbered lists located on the Ribbon. Click the Home tab and locate the buttons in the Paragraph group. When you hover the cursor over them, you can see that they are named Bullets, Numbering, and Multilevel List. Each function can be invoked by clicking the button, or for advanced options, click the arrow on the right to bring up a palette of predefined list formats or define a new format.

So far, we set Word to automatically start creating bulleted or numbered lists above. Now, let's see how it works. Create a new document and start a bulleted list by typing an asterisk (*) and pressing the TAB key. For an automatic numbered list, type a number followed by TAB or a period and a space.

To the left of the bullet or tab an AutoCorrect Options icon appears. Click it and you can choose Undo Automatic Bullets (or Numbering) to remove the bullet or number and indent (for this instance only). You can also choose Stop Automatically Creating Bulleted Lists, which has the same effect as unchecking the Automatic Bulleted Lists option in the AutoFormat As You Type tab we looked at above. No automatic bulleted lists will be created until you reactivate the function by checking the box. Finally, you can choose Control Autoformat Options to open the AutoFormat As You Type tab in the AutoCorrect dialog box—the same area we visited above. Press the ESC key to close the icon and continue forming a list.

Start A List

In addition to Word's automatic functions, there are two ways to begin a list. You can type all the items you want in the list and then select the text and click one of the list buttons, or you can click the button first and start typing. Each time you press the ENTER key, a new list item will be started with the bullet or number type that was last used.

You can return to standard body text in two ways. The easiest way is to press the ENTER key twice. You can also press it once and click the Bullets or Numbering button on the Ribbon; you then need to also click the Decrease Indent button that's to the right of the three list buttons.

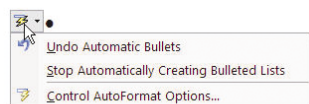
Start At Chosen Number

You can start a numbered list at any number. This comes in handy when a list is interrupted by standard body text or you want to begin a new list and Word wants to continue the existing one.

Let's see how this works. Click the Numbering button on the Ribbon and type some text. Right-click anywhere inside the item, choose Numbering from the list, and click Set Numbering Value. Click Start New List and type a new number in the Set Value To space in the dialog box. Click OK and the list item will be renumbered.

That gets us started with bulleted and numbered lists. We'll explore how to address other situations and customize lists next month. ■

BY TOM HANCOCK



When you type the characters that start a list, an icon appears that gives you immediate access to several functions.

Quick Tips

Secrets For Succeeding In Common Tasks

BY STEPHEN J. BIGELOW

Wireless Networking

Question: How do I repair a broken wireless network connection using Windows Vista?

Answer: If you drop a wireless connection or don't successfully receive an IP (Internet Protocol) address, use the Repair feature to reboot the network connection without having to restart the entire

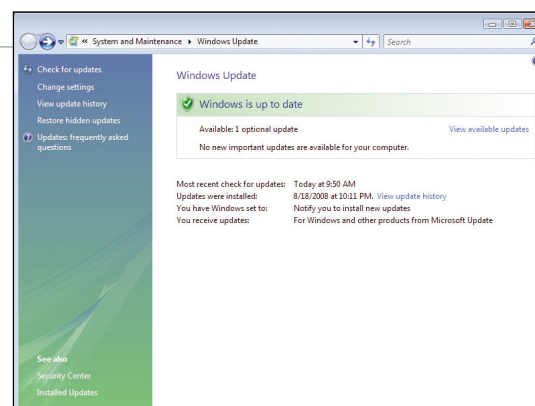
PC. Right-click the wireless network icon in your System Tray and select Diagnose And Repair from the menu. If Windows identifies a poor connection, it will reinitialize the wireless NIC (network interface card) and attempt to restart the connection for you.

Windows Update

Question: How can I be sure that Windows Vista is completely up-to-date?

Answer: Windows Vista relies on a Windows Update feature similar to previous versions of Windows, which provides the latest patches, security updates, and signature files for Windows Defender. You can check Windows Update anytime for updates and configure it so that your PC downloads and/or installs those updates for you.

To do so, click Start, All Programs, and then select Windows Update. The utility will connect to Microsoft servers and look for any available updates. If you see that updates are available, you can opt to download and install those updates or look at the list of updates and select the specific items to be installed. For automatic updates, click



Check Windows Update for optional patches that might not be downloaded and installed automatically with Windows Vista updates.

Change Settings from the task list on the left and select the automatic update scheme you prefer. Click OK to save any changes.

Spyware

Question: Other than relying on security software alerts, are there any other signs that might suggest spyware on my PC?

Answer: The most common sign of possible spyware infection is unexpected change. For example, you may see new toolbars in Internet Explorer or Firefox, along with links to URLs that you've never visited or new Favorites or bookmarks that you never added. Your browser's home page or preferred search page may have been changed. You may also see pop-up ads even when you're not actually browsing. A more serious issue is redirection—entering one URL and being taken to a completely different and unrelated URL. For example, you might enter a URL for your favorite gaming Web site and be taken to an objectionable or inappropriate Web page instead. Spyware is also notorious for impairing system performance,

resulting in slow load times or erratic behavior for programs that had been running fine before.

While these behaviors certainly do not guarantee the presence of spyware, they often occur shortly after downloading and installing "free" or questionable software that you may have obtained from the Internet. For example, if you notice erratic system behavior after you downloaded and installed something advertised as a free program, chances are that you unknowingly put spyware on your PC.

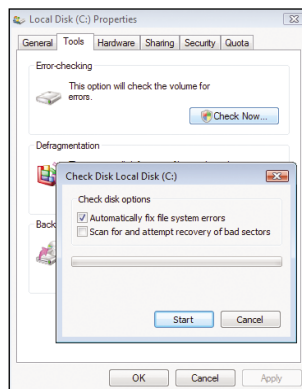
The best way to address possible spyware infection is to cut off your Internet connection and run a full-system scan using up-to-date security software. You can also block all applications running through your firewall and then re-enable your Internet connection and unblock only the known applications that ask for access again.

Hard Drives

Question: How long should my hard drive last? Is there a way to test a drive to find possible problems?

Answer: Under proper operating conditions, a commercial-grade hard drive should run reliably for hundreds of thousands of hours—far longer than the expected life span of your PC. However, hard drives can and do fail for a variety of reasons; so you should perform a few basic checks if you suspect hard drive problems.

First, listen to your hard drive. It's common to hear a slight whirring sound when the drive spins up, along with a very mild clicking sound as the read/write heads jump between tracks. But a drive



Vista provides an error-checking tool that can test the hard drive and correct basic file system problems.

that makes loud noises or grinding sounds or any kind of annoying clatter is almost always a sign of serious trouble.

Otherwise, you will need a diagnostic to help locate or fix problems. In Vista, click Start, click Computer, right-click the drive, and select Properties. Select the Tools tab and click the Check Now button. Select the Automatically Fix File System Errors checkbox and click the Start button. For deeper testing, select the Scan For And Attempt Recovery Of Bad Sectors checkbox and click Start. If you want additional testing, use a hard drive diagnostic such as Seagate's SeaTools for Windows (free; www.seagate.com).

Laptops

Question: The air coming from my new Alienware laptop seems very warm. Is this normal, or should I be worried?

Answer: Performance laptops such as those from the Alienware family will normally produce a great deal of heat, especially if they are running in a "performance" mode rather than a

"battery-saving" mode. The fact that you feel warm air is typically a good sign—it is heat that has been removed from the CPU, graphics chipset, and other components within the laptop.

Proper ventilation is the key to proper cooling, so make sure to keep all of the fan intakes and ventilation openings clear.

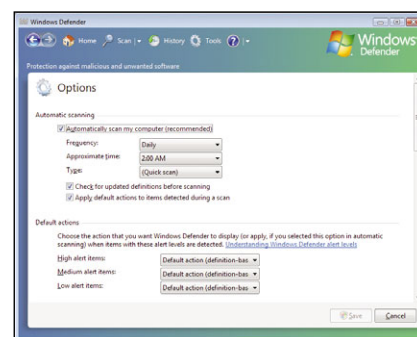
Laptop ventilation is often blocked by blankets or other articles when people run the laptop on their laps instead of on a desktop or other flat surface. Blockages disrupt air flow and prevent heat from being carried out of the laptop efficiently. The exhaust air may seem cooler but the laptop may actually feel warmer, and this is undesirable.

Windows Defender

Question: Vista's Windows Defender is scheduled to run every day at 2 a.m., but the PC is in Sleep mode at that hour. Do I need to change the schedule?

Answer: Scheduled jobs such as backups, virus checks, and updates all require the PC to be running (and often online). When you turn the PC off or put it into a power-saving mode, scheduled tasks may be skipped or delayed. If you really want a scheduled job to run at 2 a.m., the PC has to be on at that time.

The best way around this is to reschedule any jobs near your end-of-day when you're effectively done with the day's work but before the system powers down. For Windows Defender, click Start, All Programs, and Windows Defender. Click Tools, click Options, and then adjust the Automatic Scanning schedule accordingly.



Configure Windows Defender to run when the PC is on, but at a time when it won't conflict with your daily work.

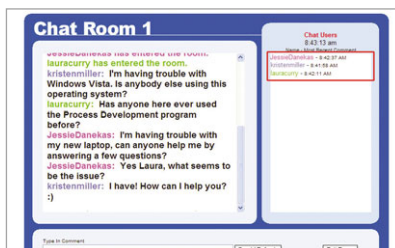
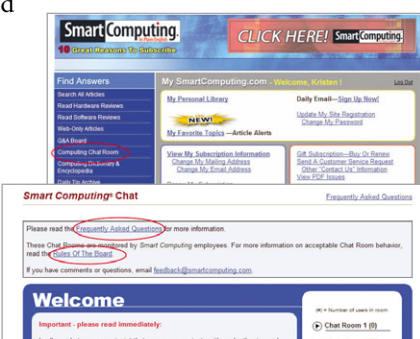
SmartComputing.com Chat Rooms: Stop By & Chat

Finding the computing answers you need can be an intimidating task. SmartComputing.com provides you with an informal, easy-to-use chat room where you can discuss everything from computer problems to the latest issue of *Smart Computing*. Don't forget to check out the Frequently Asked Questions section and Rules Of The Board. The busiest times for chat rooms usually start around 8 p.m. CST. Getting started is easy, here's how:

1. After logging in, click the Computing Chat Room link on the left side of the home page.
2. Read the Frequently Asked Questions and Rules Of The Board at the top of the page.
3. There are six rooms to choose from; rooms with people are noted with the number of users in parentheses next to the room number.
4. Click the numbered chat room link you wish to enter. (NOTE: Chat Room 1 is usually busiest.)

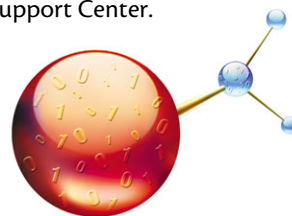
You'll see a list of current chat users on the right, in different colors, and the conversation in the main screen on the left.

1. To change the way messages display, the screen refresh rate, and the font size, click the Chat Preferences link. Select your preferences and click Save.
2. Join the conversation by entering a comment in the Type In Comment box and clicking the Send/Refresh button.
3. When you finish chatting, click Exit Room.



Networking & Communications

Our computers and home networks help us keep in touch with loved ones and stay connected to our jobs. If you've encountered a problem with your network, visit the Networking & Communications section of the *Smart Computing* Tech Support Center.



Subscribers Only

Sometimes a computing problem is best addressed by an expert. Subscribers can call (800) 368-8304 or visit www.smartcomputing.com/smartpeople and fill out an online form to pose a question to our tech specialists.



The Basics

It's best to start at the very beginning. Visit the Basic Troubleshooting Articles section of our Tech Support Center to learn the essentials of troubleshooting.



Smart Computing's Tip Of The Day (Aug. 29, 2008)

Keep Your CE Dry

If you didn't keep the carrying case for your device or if it didn't come with one, head for the kitchen. Shelter your cameras, music players, or GPS (global positioning system) units in resealable plastic bags or waterproof containers. Grab extras (the little snack-sized bags are perfect) for storing extra memory cards, batteries, and other accessories. Not only will you protect your gear from the weather, but you'll also find it easy to keep everything organized, and you'll be less likely to lose those little parts.



Notebooks For Everyone

Desktop computers provide lots of functionality and power, but they're not easily portable. Smartphones and other travel-ready gadgets are much easier to tote, but they don't provide the power you need while you're away from home. What you need is the power and portability that only a notebook can provide.

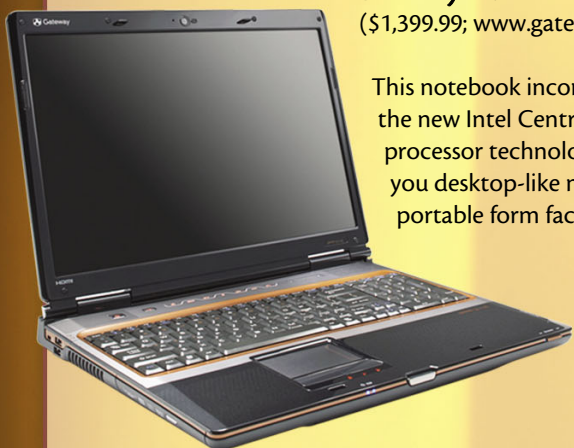
Just as we have different shoes for different purposes, so too, there are different types, or categories, of notebooks made to suit different lifestyles. We'll provide an overview and examples of each type to help you get a better feel for the style of notebook that best suits your needs.

Desktop Replacement

As their name suggests, desktop replacement notebooks are meant to replace a desktop PC. Thus, these notebooks have substantial power. Along with this power, however, comes size and weight.

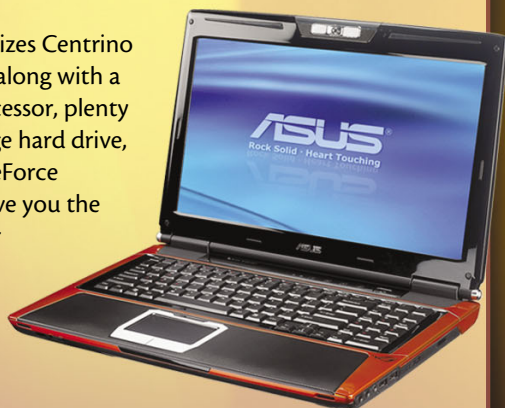
Gateway P-7811 FX (\$1,399.99; www.gateway.com)

This notebook incorporates the new Intel Centrino 2 processor technology to give you desktop-like muscle in a portable form factor.



Asus G50V-A1 (\$1,699; www.asus.com)

The G50V utilizes Centrino 2 technology along with a powerful processor, plenty of RAM, a large hard drive, and Nvidia GeForce graphics to give you the power of your desktop in a mobile form.

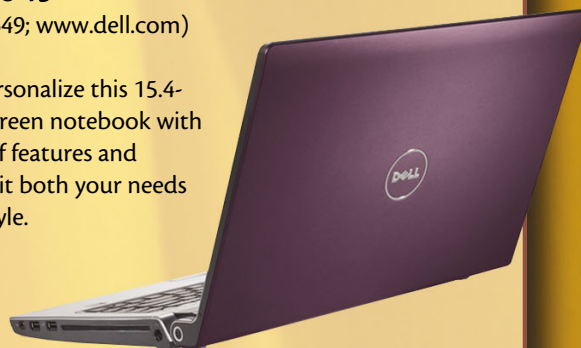


Mainstream

If you're looking for an all-purpose general notebook that can suit a variety of basic needs, look to a mainstream model that you can customize to suit your specific tasks.

Dell Studio 15 (starts at \$649; www.dell.com)

You can personalize this 15.4-inch widescreen notebook with a number of features and colors to suit both your needs and your style.



HP Pavilion dv5z (starts at \$549.99; www.hp.com)

This notebook strikes a balance between mobility, performance, and price. You can also customize this notebook with lots of multimedia extras, including a TV tuner and Blu-ray Disc drive.



Ultra Portable

For some users, portability is the main focus when it comes to choosing a notebook. After all, every pound adds up fast when you're toting a notebook around the country.

Apple MacBook Air 13-inch 1.6GHz (\$1,799; www.apple.com)

Hyped as the world's thinnest notebook, the MacBook Air is less than 1 inch thick and weighs about 3 pounds.



(Courtesy of Apple)

Fujitsu LifeBook P8010 (starts at \$1,699; www.fujitsu.com)

To slim a notebook, many manufacturers trim features, but the LifeBook P8010 offers an optical drive, integrated Web cam, and fingerprint reader for increased security.



Toshiba Satellite U405-S2854 (\$949.99; www.toshiba.com)

Proving you can have portability at an affordable price, the Satellite U405-S2854 weighs as little as 4.41 pounds and costs less than \$950.



Mini-Notebooks

Notebooks that fit into the "mini" category may offer a bit less power than their larger brothers, but they are also some of the most portable models available. In fact, some are only slightly larger than a paperback novel.

Asus Eee PC 701SD (starts at \$299)

Available in Microsoft Windows XP or GNU Linux versions, the Eee PC 701SD has an 8GB SSD (solid-state drive) to give you shockproof computing, low power consumption, and quick startup.



Acer Aspire One AOA150-1570 (\$349; www.acer.com)

The Aspire One AOA150-1570 runs WinXP and gives you the ability to surf the Web, check email, listen to music, instant message, and more.



Lenovo IdeaPad S10 netbook (\$399; www.lenovo.com)

Lenovo's thin and lightweight IdeaPad S10 has built-in Wi-Fi, a Web cam, two USB ports, and a card reader to enable you to get more done while on the go.



Tablet PCs

If you want to interact with your computer using a stylus or a keyboard, then a Tablet PC may be for you. Many tablets are also traditional notebooks, with a rotating display that lets you use the computer like a traditional paper tablet.

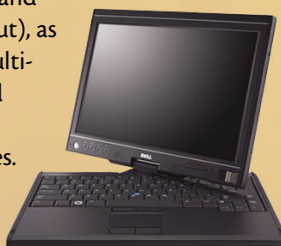
Fujitsu LifeBook T1010 (starts at \$1,349)

This convertible notebook offers a Shock Sensor hard drive and spill-resistant keyboard.



Dell Latitude XT (starts at \$2,560)

This business-class tablet offers capacitive touch (meaning it accepts both pen and finger input), as well as multi-touch and gesture capabilities.



HP Pavilion tx2500z (starts at \$899.99)

Whether used as a traditional notebook or converted to a tablet, the tx2500z helps you stay connected and productive on the road.



What To Do When Your PC Doesn't Have A Windows Disc

Some things get better with age, like a bottle of wine or a favorite comfy pair of jeans. The same doesn't often hold true for a Windows PC though, which is far more likely to run more slowly and less reliably as time passes.

This doesn't necessarily mean it's time to haul your computer to the curb, but it is probably a good indication that you need a fresh installation of Windows to get your system back on an even keel.

Of course, starting from scratch with a new Windows install isn't a big deal when you have your original operating system disc handy. But what if you don't, either because you lost it or never had it to begin with because you bought or were given a secondhand computer?

Faced with this situation, your first instinct might be to grab any Windows disc you can find—maybe a friend's or one that came with another computer—to do a reinstall. That approach may or may not work—you may have problems installing Windows or activating it after installation, for example. But even if it does work, it would violate Microsoft's OS (operating system) licensing terms.

Does this mean your only option is to buy a brand-new, full-price copy of Windows for an old PC? Not necessarily, because depending how your system's copy of Windows is licensed and how you came to own it, there may be other options.

License & Registration, Please

Home versions of Windows XP or Vista can be licensed one of two ways. The first is an OEM (Original Equipment Manufacturer) license, used when

Windows is preinstalled by major manufacturers like Dell, Gateway, or HP or by smaller companies that assemble generic systems using off-the-shelf parts. (Microsoft refers to these as System Builders.) Copies of Windows with OEM licenses are tied to the computer they came with and can't be transferred to another system.

The second is a retail license, which is what you get when you buy a boxed stand-alone copy of Windows from a store. Unlike OEM licenses, retail licenses are transferrable between computers, as long as you uninstall the OS from the original system before installing it on another one.

To see what kind of license your system's copy of Windows has, check the Windows Product ID, a 20-digit number you can find within the System Properties dialog box—right-click My Computer in WinXP (in Vista it's called Computer) and choose Properties. Your copy of Windows is an OEM version if your Product ID contains the letters "OEM"; otherwise, it's most likely a retail version.

Ordering Replacement Discs

If your system is running an OEM version of Windows, you should contact the system manufacturer to obtain replacement Windows discs. You'll usually find the vendor's support contact information in the aforementioned System Properties dialog box, or do an online search for the information.

Policies vary by manufacturer, so the information you'll be asked to provide and the cost, if any, of the replacement discs will depend on the company you're dealing with. To get a



sense of what you might expect, we got in touch with Dell to request a replacement copy of Windows XP Home Edition for an Inspiron notebook that we had bought back in 2004. Because we were on file with Dell as having purchased the system, we were told there would be no charge to send us the replacement and to expect shipment in three to five business days. (As it turns out, we actually received a set of discs the very next day.)

We also contacted HP about ordering a WinXP Media Center Edition disc for a three-year-old Pavilion desktop system that we did not originally buy. (It was given to us used.) The support representative directed us to a Web page for the specific system model where, upon entering the system's serial number, we were able to order a set of replacement discs for just under \$16, including shipping.

If your system was built by a System Builder that's unwilling or unable to offer disc replacement (maybe they no longer exist), you may be able to order a replacement disc directly from Microsoft by visiting tinyurl.com/58yppy.

To use this online ordering system, you'll need to provide the COA (Certificate of Authenticity) number for the system's original copy of Windows. (The COA is the small rectangular sticker that's usually found on the side, back, or bottom of the PC.) When we used the system to order a WinXP Media Center 2005 replacement disc for a custom-built PC whose

manufacturer had since gone out of business, the site quoted a price of \$30, including shipping.

If you want to replace a lost disc for a retail copy of Windows that you bought, you have to talk to Microsoft; literally, because you can't order a replacement online. Call the Microsoft Order Desk; it's open Monday through Friday from 5 a.m. to 7 p.m. Pacific time. (The number is 800/360-7561 for U.S. residents or 800/933-4750 from Canada.)

Note that Microsoft will charge a small fee for replacement discs (how much depends on your circumstances), and you'll likely be asked to fax in a dated copy of a sales receipt as proof of purchase.

Buying New

If you don't have an OEM version of Windows or aren't the original purchaser of a retail copy, you'll need to buy yourself a new copy of Windows. When shopping for one, you should stick with reputable and well-known retailers to minimize the possibility of getting questionable software. If you prefer to do your Windows shopping online, be especially wary of buying from auction sites and definitely steer clear of unsolicited email (spam) offers. Also, be aware that no one other than Microsoft is authorized to sell Windows via a digital download.

Microsoft has a special Web site you can check out (tinyurl.com/63zebd), with lots of information about how to distinguish legitimate software from counterfeit. It even includes pictures of bogus copies of Windows so you know what to look for.

In order to be licensed properly, you'll need the full version of the operating system rather than the upgrade version, and a bona-fide retail copy of WinXP Home will cost close to \$199. That's the list price, though you will often find it for a bit less at online retailers such as Amazon.com (www.amazon.com), Newegg (www.newegg.com), or TigerDirect (www.tigerdirect.com). Microsoft stopped selling boxed copies



You can see what kind of license your copy of Windows has by checking the System Properties dialog box. If you see "OEM" you have an OEM version, and you should contact the system manufacturer about a replacement OS disc.

of WinXP to retailers as of June 30, 2008, but they're free to continue selling WinXP as long as they have it in stock. As of this writing, we found it for sale at several well-known store chains and online retailers, but it will get harder to find as time goes on.

Therefore, if your system's specs are up to snuff (see the System Requirements chart), consider Vista Home Basic (an old PC probably doesn't have the horsepower for Vista Home Premium), which also costs \$199. Before taking the plunge, download and run the Windows Vista Upgrade Advisor (tinyurl.com/63t642) which will check for driver compatibility.

Before you spring for a new copy of Windows, consider whether the cost is

worthwhile given the age of your system. Spending nearly \$200 on new Windows for an old PC may not make a lot of sense when for not much more than \$300, you can buy a brand-new entry-level desktop, (or for around \$500, a notebook).

When shopping for WinXP or Vista, (especially online, including at the sites mentioned earlier) you may come across OEM/System Builder versions of Windows for sale that are a lot less expensive than the full retail versions. You can buy them, but before you do, you should be aware of a couple of important limitations OEM/System Builder versions impose. First, they don't come with support from Microsoft, and perhaps more importantly, because OEM licenses are forever tied to the system they're installed on, if you want to move that copy of Windows to a new system in a year or two, you'll be out of luck.

The Bottom Line

So if your system is running an OEM version of Windows or a retail version that you bought yourself (and you can prove it), you'll most likely be able to get a low- or no-cost replacement disc. Only when you're aiming to replace a retail copy of Windows you didn't buy will you need to bite the bullet and shell out for a new copy of your own, and in some cases, you may decide that getting a new system to go along with it justifies the extra cost. ■

BY JOSEPH MORAN

System Requirements

Operating System	Minimum/Recommended
WinXP Home	Processor: 233/300MHz RAM: 64/128MB Graphics: 800 x 600 Hard Drive: 1.5GB free space
Vista Home Basic	Processor: 800MHz/1GHz RAM: 512MB Graphics: 800 x 600/ DirectX 9 with 32MB Hard Drive: 20GB with 15GB free space/40GB with 15GB free space

How To Fix Common Problems With Microsoft Access



Access 2007 is much more stable and robust than was Access 2003 (or any previous version for that matter), but it still isn't immune to problems. Opening older databases or converting from the new format to an older one is often confusing, and several features you may be used to seem to have disappeared even though they are still accessible. Whether you're experiencing a specific error message or general program slowdowns, the step-by-step instructions in this article will help make Access 2007 run its best.

The most important thing to do is keep Access updated with the latest patches. So many people use the software that bugs and security vulnerabilities that lead to aggravating errors (or worse) are quickly reported and fixed, but you won't benefit from those fixes unless you install the patches Microsoft offers. The easiest way to do this is to use Office's integrated updating system, which you can access by clicking the Office icon, clicking the Access Options button, selecting Resources, and clicking the Check For Updates button. Note that using this service requires using Internet Explorer. So if you use an alternative browser, you'll need to apply updates manually by downloading them from the Microsoft Download Center at www.microsoft.com/downloads.

General Problems

Problem: Other computer programs are stable, but Access (and perhaps other Office components) crashes or locks up at random.

Solution: The first question to answer when this happens is whether or not you use a lot of Office add-ins, specifically those that affect Access. These

programs plug into Office to add features or change functionality, such as changing the Ribbon interface in Access to menus like those used in previous versions of the software. Temporarily turn off all add-ins by clicking the Office button, clicking the Access Options button, and clicking Trust Center. Click the Trust Center Settings button, click Add-Ins, and check the box next to Disable All Application Add-ins before clicking OK.

If that solves the problem, you may need to remove all add-ins, re-enable Add-ins using Trust Center, and then install the add-ins one by one until you find out which one was causing the trouble. Either don't use that add-in or contact the manufacturer to see if a newer, more stable version is available.

If that doesn't improve the stability of Access (or if you don't use add-ins), you should run Microsoft Office Diagnostics. Click the Office button, click the Access Options button, click Resources, and click the Diagnose button. Click the Continue button and then the Run Diagnostics (or Run Diagnostics Again) button and take any advice the program dispenses.

Finally, if all else fails, try repairing Access. In Windows Vista, click Start, click Control Panel, and click Uninstall A Program. Scroll down to Microsoft Office 2007 on the list, click it, and click Change. When the menu appears, select Repair, click Continue, and wait for the repair process to complete.

Problem: I upgraded from Access 2003, but my custom toolbars are no longer available in Access 2007.

Solution: The new Ribbon interface has wreaked havoc with interface menu enhancements that were available to users of previous versions of Access, but you can get your toolbars back on a database-by-database basis. First, open the database in Office 2003, click Tools, and click Startup. Select a custom menu bar in the Menu Bar list and remove the check from the Allow Built-in Toolbars box before clicking OK.

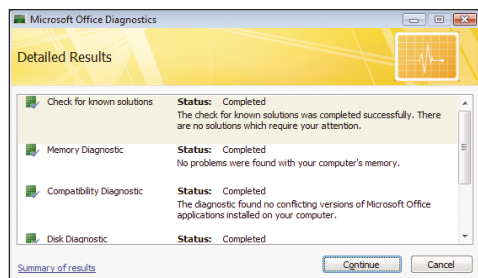
You can also open a database in Office 2007, click the Office button, and click the Access Options button. Click Current Database and remove the check from the Allow Full Menus box before clicking OK.

Problem: When I open a large database file, Access 2007's performance slows to a crawl and database queries seem to take forever.

Solution: Adding more RAM (Random Access Memory) to your computer can help offset this, but often slowdowns are caused by slack space in the database and errors that tend to pop up as the database grows. Worse yet, if you continue to use the database in this semistable state—especially if multiple users access it simultaneously—it can become corrupted and lose some of the data that was most recently added.

Fortunately, Access 2007 comes with a Compact And Repair tool that can

keep a database as small as possible and fix simple errors before they get out of hand. Microsoft recommends creating a backup of the database before using the utility, so click the Office button, click Manage, and click Back Up Database. Give the backup a name,



Use the Office self-diagnostic program to automatically solve common Access 2007 problems.

choose where to save the backup, click Save, and make sure the original database file is still open before continuing.

If the database is not shared, configure it to automatically run the Compact And Repair routine each time it is closed. To do this, click the Office button, click the Access Options button, click Current Database, check the Compact On Close checkbox, and click OK.

If the database is shared, make sure nobody else is currently accessing it and manually run the utility. Click the Office button, expand Manage, and click Compact And Repair Database. If no database is currently open, you can select one in the Database To Compact From dialog box and run the utility that way.

Problem: I want to use the Workgroup Administrator feature but can't seem to find it.

Solution: This was a simple menu option in previous versions of Access, but that option was stripped out of Access 2007 along with a number of other security features. To be fair, security in Access 2003 was incredibly weak and Access 2007 is much improved in that regard, but Workgroup Administrator features are still available in Access 2007 if you want to go to the trouble of using them. One method involves running Visual Basic code, but the easier route is to enable macros in the

database by clicking the Office button, clicking the Access Options button, clicking Trust Center, and clicking Trust Center Settings. Click Macro Settings, click Enable All Macros, click OK, and click OK again to exit the Access Options window. Be aware

that this exposes the database to macros running malicious code should such a macro find its way into the database, so only use this method if it's absolutely necessary.

Click Create, click Macro, and then click Macro again. Click Show All Actions, click the arrow for the drop-down menu in the Action box and click RunCommand. Click to place your cursor in the Command box that appears towards the bottom of your screen and then select Workgroup Administrator from the Command drop-down list. Next, click the Office button, click Save, give the macro a name, and click OK. Click Run to launch Workgroup Administrator.

File Problems

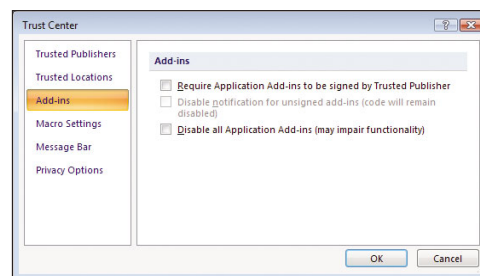
Problem: I can open database files created with previous versions of Access, but some of Access 2007's more-advanced features are disabled when I do.

Solution: Although older Access database files are compatible with Access 2007, they are saved in a completely different file format than Access 2007's feature-rich ACCDB format. Here's a list of features supplied by Microsoft that ACCDB supports but that previous Access file versions do not:

- Complex data (multivalued data types)
- Attachment Date type
- AppendOnly Memo fields
- Compressed image storage for any picture property
- Email database as attachment
- Publish database to a Document Library in Microsoft Office SharePoint Server 2007
- Full support for Linked Tables to Office SharePoint Server 2007
- Offline support for Linked Tables to Office SharePoint Server 2007
- Linked Tables to files in ACCDB format
- Encrypt with database password

Using any of these features requires converting the database to ACCDB format, and saving an ACCDB file in an older format requires disabling any of these features before saving.

Disabling Add-ins is one way to see if they are affecting the stability of Access 2007.



Problem: I converted an older Access database file from MDB format to Access 2007's ACCDB format, but now certain features I used in the previous version of Access are no longer available.

Solution: Just as ACCDB can do several things MDB can't do, MDB supported a few features that were jettisoned or changed when ACCDB was developed. Microsoft provides the following list of major things MDB files supported that ACCDB doesn't handle:

- Ability to open the database with previous versions of Access
- Object Level Security (also known as Workgroup Security)
- Database replication

- Encode database (replaced with Encrypt with database password)

Problem: I opened a database created with Access 97 (or earlier) with Access 2007 and it gave me the option to either Enable or Convert the database, but I'm not sure which option to choose.

Solution: Selecting Enable lets Access 2007 open and display the contents of the database, lets you search the database, and lets you perform any other read-only option. You can also change data in an enabled database using Access 2007, but making any design changes requires opening the file in the older version of Access where it was created. Only select this option if you must retain the ability to open the database in both versions of Office.

If you only want to work with the database in Access 2007 and don't care that the older version of the software can't open it anymore, select Convert. Surprisingly, this converts the file to Access 2002/2003 format, which you must then convert to the Access 2007 format before you can make changes to it in Access 2007.

Problem: When I open a replicated database saved in MDB format, Access 2007 won't let me save it in the program's native ACCDB format.

Solution: Unfortunately, support for replication was dropped in Access 2007, so you can either continue to work with the file in MDB format or go through a convoluted process to import the database into Access 2007 (although replication features are not supported once it is transferred). To do this you must be able to open the database using the version of Access that created it, and you must precisely follow the series of steps discussed in this Microsoft support article: tinyurl.com/5o96ld.

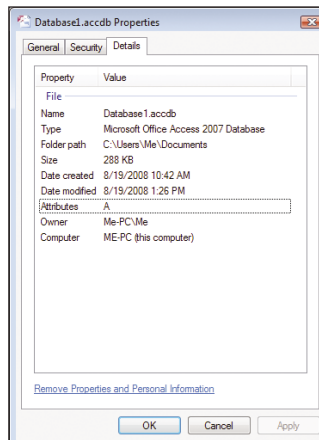
Problem: Access doesn't save databases in my preferred default format.

Solution: By default, databases are saved in Access 2007 (ACCDB) format, but that is easily changed. Click the Office button, click the Access Options

button, and click Popular. Use the Default File Format drop-down box to select either Access 2007, Access 2002-2003, or Access 2000 and click OK.

Problem: I have a password-protected database that I need to save in a different format, but the option is grayed out on the Save As menu.

Solution: Access 2007 uses much better encryption and overall security measures



If you're really worried about the personal information Access 2007 appends to the properties of all saved databases (and you needn't be), remove the data.

than did previous versions, so protected databases saved in Access 2007 format are not backward-compatible with older versions of the software. You need to decrypt the database before saving it in the different format. To do this, click the Database Tools tab and click Decrypt Database. Type the password that you used to encrypt the database and click OK, and the protection is removed, allowing you to save in a different format.

Security Problems

Problem: The Security Warning toolbar always appears when I open a database that contains macros, but I don't want it to appear.

Solution: Macros let Access (and other Office programs) execute custom-made program code, so macros are one of the

ways the bad guys introduce malware such as viruses and spyware onto your PC. Access disables macros by default, but if you are working with a file that you know is safe and want to disable this warning, you can make some adjustments using the Trust Center.

Click the Office button, click the Access Options button, and click Trust Center. Click the Trust Center Settings button, click Macro Settings, and select the Disable All Macros Without Notification radio button. This suppresses macros without generating a warning. If you use digitally signed macros, which are more secure than macros that don't use digital signatures, then select the Disable All Macros Except Digitally Signed Macros radio button. Never select the Enable All Macros radio button unless you have expert-level computer security knowledge.

Problem: I've heard that personal information is stored in the file properties of each database I save and don't want it there.

Solution: This isn't a big deal for most people because the personal information amounts to your login name, computer name, the date the file was created and last modified, among a few other facts that won't result in identity theft. That said, if you don't want that information included, you can remove it from an individual file by right-clicking the file's icon, clicking Properties, selecting the Details tab, and clicking the Remove Properties And Personal Information link. Select the Create A Copy With All Possible Properties Removed radio button to strip everything out, or choose the Remove The Following Properties From This File radio button and manually select the data fields to exclude.

If you want to do this to a database that is open, click the Office button, click Access Options, and click Current Database. Check the Remove Personal Information From the File Properties On Save box and click OK. ■

BY TRACY BAKER

How To Install Applications

With the variety of business, image-editing, design, self-improvement, and gaming software available, it seems like there's an application for just about everything these days. Of course, between the software purchase and actual use, there's one necessary task—the installation. Not all install processes are alike. For starters, some programs load from a CD or DVD, while others require you to download an executable file from the manufacturer's Web site.

There are also a few other things you'll need to consider, such as the program requirements and necessary hard drive space, before you purchase the software. To help you avoid any software install mishaps, we'll help you determine whether or not a program is compatible with your PC and show you how to install applications via disc and digital download.

Meeting The Requirements

Although most applications are compatible with multiple iterations of Windows, you should start by checking that the application supports your OS (operating system). Note that programs listed as Vista-compatible support every version of the OS, such as Vista Home Premium, Vista Business, and Vista Ultimate. To locate which OSes are compatible, examine the product box or visit the manufacturer's Web site.

You should also locate the minimum and recommended hardware requirements. For best results, you'll want your PC to meet the recommended specifications, because applications run more smoothly and experience fewer problems on systems that meet the recommended requirements. To give you an idea of the type

of specs you'll typically see, we've listed the minimum system requirements for iTunes 7.7 and Adobe Premiere Elements 4.0 as well as World of Warcraft: The Burning Crusade in our "System Requirements" sidebar.

Basic information about your PC's hardware can be found under System in Windows. Click the Start button, select Control Panel, and choose System And Maintenance. Click System and under the System heading, you can see the speed and type of your processor as well as the total amount of memory on your PC. For more demanding applications, such as video-editing programs and video games, check that your computer has a graphics processor capable of meeting the program's needs. To determine the graphics power of your PC, click the Device Manager link in the upper-left portion of the System window. Click the plus (+) sign next to the Display Adapters icon and write down the graphics processor listed in the drop-down menu. Then, visit the video card manufacturer's Web site or enter the title of the graphics processor into a Google search. Check that the amount of video memory (sometimes called VRAM [video RAM]) and driver information, such as support for DirectX 9, meets the application's requirements.

Besides processing and graphics power, you also need to ensure you have enough hard drive space to install the application. Click Start and Computer and take note of the free space on your hard drive. Although you could remove a batch of multimedia files or other applications to make just enough room for a new



application, you'll see reduced system performance when the hard drive is completely full, and when you add new files, you'll need to remove or back up your data. If you can't install the application without completely filling up the space on your hard drive, consider adding more storage to your PC.

Download & Install

With the ability to let you download music, organize your music collection, rip tracks from CDs, and function as a media player, iTunes is one of the most popular application downloads. We'll guide you step-by-step through the iTunes installation to demonstrate the basics of installing a program from a Web site. It's best to download applications from the software creator's Web site, and iTunes can be downloaded from www.apple.com/itunes. Next, locate a link on the Web site that lets you download the software. iTunes is free, but note that if an application isn't free, you'll need to buy it (this typically involves providing credit card information) before you can download the installation file.

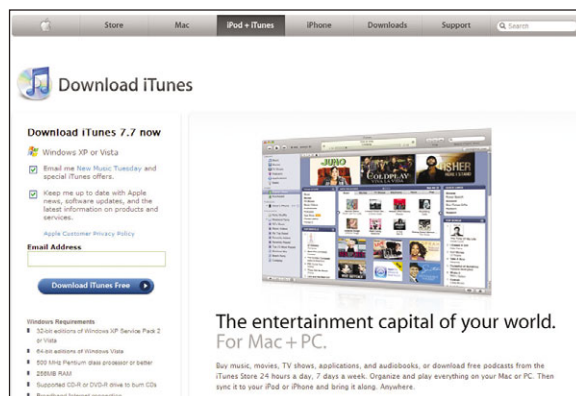
To reach the download page for iTunes, click the Download Now button in the upper-right corner of the iTunes Web site. In some cases, the software manufacturer's Web site will

immediately initiate the download, while others, such as iTunes, redirect you to a download page. At the Download iTunes Web page, click the Download iTunes Free button, and a dialog box will appear that asks if you want to Run or Save the file. The advantage to saving the installation file is that you won't have to redownload the application if you need to install it at a later date or on another PC.

We suggest that you save the file to a location on your hard drive, such as the C:\USERS\PUBLIC\PUBLIC DOWNLOADS folder in Windows Vista, where it'll be easy to find. Depending on the speed of your Internet connection and the size of the file, applications may take from a few minutes to a few hours to download. When you want to install the program, open Windows Explorer, navigate to the folder where you saved the file, and double-click it.

For security reasons, Vista may display a User Account Control prompt to make certain you—not a computer virus or other type of malware—want to install the application. Click Continue at the prompt. At the Welcome To The iTunes Installer window, click Next, select the I Accept The Terms In This License Agreement radio button, and choose Next. At the Choose iTunes + QuickTime Installer Options window, you can configure how and where iTunes installs itself on your PC. Note that at this point with purchased software, you'll often need to enter a license key that the manufacturer provided via email.

Most applications generally allow you to set program defaults, such as whether or not it will load at Windows startup, before the install wizard copies application files to your PC. In the case of iTunes, there are three software default options: Add iTunes And QuickTime Shortcuts To My Desktop; Use iTunes As The Default Player For Audio Files; and Automatically Update iTunes, QuickTime, and Other Apple Software. Under the Destination Folder, iTunes lists the default folder on your hard drive where the program will



Before you download or purchase software, make certain your PC meets the minimum requirements, such as the Windows Requirements listed on the left side of the Download iTunes Web page.

Begin by inserting the Premiere Elements 4 disc into an available DVD drive on your PC. Note that with

install. If you want to choose another location, click the Change button and select a new destination folder. Click the Install button and the iTunes installation program will set up the application on your PC. To run iTunes, click the iTunes shortcut located on your computer's Desktop or select iTunes from the Start menu.

Installation From Disc

Although digital downloads allow you to get the application at any time, you don't get the retail box and a hard copy of the instructions that come with applications installed from CD or DVD. Typically, retail boxes also include the license key you'll need to activate the program during or after the installation. Often, the key code can be found on a jewel case or other internal packaging. For instance, the license key for Adobe Premiere Elements 4 is located on the back of the disc's DVD jewel case. We'll walk you through the installation of Adobe Premiere Elements 4 to show you how to load the program using the included DVD.

games and larger applications, such as Premiere Elements 4, you'll need a DVD-ROM to load the app onto your PC. That being said, most applications still come on a single CD. Assuming you have AutoPlay enabled, an Adobe Premiere Element 4.0 dialog box will appear after you insert the disc. If nothing happens, click Computer and double-click the optical drive that contains your Premiere Elements DVD. From the dialog box, click the Install Adobe Premiere Elements button.

At the Choose Setup Language menu, click OK and Windows will load the InstallShield Wizard. After a quick initial scan of your PC, which helps ensure that your PC meets the minimum system requirements, choose the Next button and click the Accept button at the License Agreement window. Under Customer Information, enter your name and serial number into the requisite fields. In the case of Adobe Premiere Elements, you won't need to add hyphens between the four digit numbers, but some programs may require you to

Uncompress Downloaded Files

Downloadable applications may come in one of two forms: an executable file with an .EXE extension or a compressed file. You can just double-click an executable file, but with compressed files, which appear as a folder in Windows XP and Vista, you'll need to double-click the folder and locate the installation file. If you want to extract the files to another destination on your hard drive, click the Extract All Files button underneath the Address Bar in Windows Explorer. ■

enter the product key exactly as you see it on the packaging. Select your country from the Please Select The Country In Which You Live dropdown menu and click Next.

Next, the installation will ask you to select the appropriate TV format to use with Adobe Premiere Elements. By setting key program defaults during installation, the installation wizard helps you avoid the need to search through menus and system settings later on. Assuming you live in the United States, select the NTSC TV Format radio button and click Next. At the Destination Folder window, the installation wizard lists the location on your hard drive where it plans to load Premiere Elements 4.0. Click the Change button if you want to install Premiere Elements 4.0 to another location.

Some applications also allow you to select whether or not to install optional tools for the program. For instance, under the Content Installation Options heading, you can select the Install Additional Movie Themes, Templates For Titles And Disc Menus checkbox to include the extras from Adobe. After making any changes, click Next. Finally, click the Install button to load Premiere Elements. When the installation finishes, it will indicate that you must restart your PC before you can use the software.

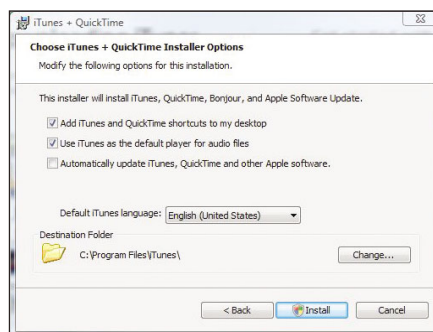
Set It Up

Once you've installed the application, you may still need to do a little maintenance before using the program. For instance, when you first start iTunes, the iTunes Setup Assistant helps you locate and organize the music on your PC. First, you'll need to accept the license agreement. Then, you can configure the Setup Assistant to find all the MP3 and AAC

(Advanced Audio Coding) files or WMA (Windows Media Audio) music on your PC. In turn, the music files will be added to your iTunes Music Library. Additionally, iTunes will offer to organize how the music files are stored on your hard drive. Because iTunes may move your music to a different folder, you may want to select No, I'll Change The File And Folder Names Myself.

Finally, the iTunes software will ask if it can check and see if any updates are available for the software. If you just downloaded the newest version, checking for updates may seem silly, but with applications you install from

Most applications allow you to configure a few key settings before beginning the installation process.



disc, it's a good idea to allow the program to patch itself to the newest version. Besides new features, the updated title may offer greater stability and run more efficiently than the original version.

File It Away

Once the application is up and running, you'll want to keep most, if not all, of the material included with the application. For downloaded applications that you purchased, you should write down the product key and any other information that could be necessary for reinstalling the software and keep it in a safe place. For reference sake, you may want to keep the product manual handy until you're sure you won't have any questions about using the software. ■

BY NATHAN LAKE

System Requirements

Here are some examples of the system requirements for a few popular applications. Requirements for programs can often be found on a company's Web site or on the packaging of boxed software.

iTunes 7.7

OS: Windows XP 32-bit (with Service Pack 2) or Windows Vista 32-bit or 64-bit

Processor: 500MHz

Memory: 256MB

Optical Drive: CD±RW or DVD±RW drive (for burning CDs)

Internet: Broadband connection (for buying or streaming music)

Adobe Premiere Elements 4.0

OS: WinXP (with Service Pack 2) or Vista

Memory: 512MB of RAM in WinXP, 1GB of RAM in Vista

Hard Drive Space: 4.5GB

Minimum Monitor Resolution: 1,024 x 768 (16-bit)

Video: DirectX 9 or 10 compatible display driver

Sound: DirectX 9 or 10 compatible sound driver

Optical Drive: DVD-ROM (to install software) or DVD±RW drive (to install software and burn DVDs)

World of Warcraft: The Burning Crusade

OS: Windows 2000 (Service Pack 4), WinXP (Service Pack 2), Vista

Processor: Intel Pentium III 800MHz or AMD Athlon 800MHz

Memory: 512MB minimum, 1GB recommended

Video: 32MB 3D graphics processor with hardware transform and lighting minimum; 64GB VRAM (video RAM) 3D graphics processor with vertex and pixel shader capability recommended

Sound: DirectX-compatible sound processor

EXAMINING ERRORS

COMPILED BY THE SMART COMPUTING STAFF

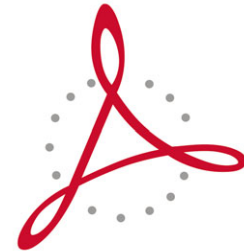
Error: Error 1406: Could not write value Folders to key [key name]

Translation: This error message may occur after Adobe Acrobat (version 6.0 or higher) terminates the installation process. The error occurs because the installer application cannot successfully write a registry key needed for installation.

Solution: You'll need to remove all previous versions of Adobe Acrobat

before installing the new version. In Vista, click Start, select Control Panel, and choose Uninstall A Program. Select the previously installed version from the program list and click the Uninstall button. Then, reinstall the new version of Adobe Acrobat. You may also want to run an antispyware or antivirus application, because the malware may be preventing Windows from changing the necessary registry

data. (For more information, see tinyurl.com/yuhv5m.) ■



Error: The page cannot be displayed. Cannot find server or DNS error.

Translation: Your browser can't reach the Web page that you were looking for.

Solution: First, try surfing to several Web sites to make sure that the problem isn't only with one or a few particular sites.

Next, verify that your Internet connection isn't down. For instance, the reader that submitted this error message could still read his email via

Outlook, so the connection to his ISP's (Internet service provider's) mail server was working. Alternatively, try to use an instant messaging client or a program's "check for updates" feature to see whether they get anywhere.

If your Internet service is out, unplug your cable or DSL modem, if present, then power it back up. Do the same for your network router, if you have one. Wait a few minutes and then check Windows' Network Connections in the Control Panel

to verify that your network is up. Restart your browser.

Finally, you should be aware that the industry recently collaborated on a fix for a very serious vulnerability with DNS (the Domain Name System of the Internet, which translates URLs such as www.smartcomputing.com to IP [Internet Protocol] addresses such as 127.0.0.1). During the late July to early August timeframe, as DNS servers were being patched, sporadic service outages were frequent. ■

Error: 0x80072F8F

Translation: You may receive this error message when searching for updates on the Microsoft Windows Update Web site if the date and time on your computer differs too much from the time and date of the SSL (Secure Socket Layer) certificates that the Windows Update site uses. This time difference can cause the update process to fail.

Solution: You can correct this error by updating the date and time on your computer, and by clearing the Check For Server Certificate Revocation option that you'll find in

Internet Explorer. To alter the date and time in Vista, go to Start; click Control Panel; and click Clock, Language, And Region. Next click Date And Time. If the displayed date and time are not right, click the Change Date And Time button. Use the calendar and Up and Down buttons next to the displayed time. When you have corrected the date and time, click OK and then click OK again. To change the date and time in Windows XP, Server 2003, or 2000, go to Start and Control Panel and double-click Date And Time (in Classic view). Use the

same method detailed above to change the date and time, if necessary. Click OK to finish. To clear the server certificate revocation option, open Internet Explorer, go to Tools, and then select Internet Options. Click the Advanced tab and scroll down to the Security section. If it's selected, click the Check For Server Certificate Revocation box to clear it and then click OK. Restart Internet Explorer for these changes to take effect. If these solutions don't eliminate the error message, visit support.microsoft.com/kb/929458 for more solutions. ■

Microsoft®

Error: Program Not Responding

Translation: An application has stopped interacting with Windows or is “hung up” and cannot continue correct operation. This happens for a variety of reasons, from a programming error on the part of the application’s creator to a hardware or hardware driver problem to malware.

Solution: There are many solutions to try. First, press CTRL-ALT-DELETE to open Task Manager and manually shut down the application. Then restart the computer; in many cases, that will solve the error.

If it’s a persistent problem, check to be sure you have the latest from

Windows Update. Your computer should automatically check for updates every time you log on to the Internet. Also be sure to run a scan to check for viruses or other malware. If you discover anything malicious, remove it with your anti-malware software.

If the problem seems to persist when you are using a certain hardware device, such as a graphics card when you are gaming, visit the device manufacturer’s Web site in order to download the latest device drivers.

One common problem is overheating. When a computer overheats,

programs tend to hang; eventually, if the heat gets worse, the computer shuts itself down to protect its components from being cooked. Be sure your case fans are free of dirt and debris. With the computer powered down and the power supply off, open up the computer case and clean out any dust on your components (we recommend using a can of compressed air); dust insulates heat. Finally, be sure your computer is stored in a cool place—not near a heating vent—and that nothing is blocking the case fans from removing hot air or drawing in cool air. **|**

Error: This operation has been cancelled due to restrictions in effect on this computer. Please Contact Your System Administrator.

Translation: You might encounter this error when clicking hyperlinks in Microsoft Outlook emails. It could be due to a corrupt add-on, faulty setting, or damaged file. Changing settings or removing add-ons should resolve the problem.

Solution 1: Start by resetting Internet Explorer. Launch the browser, click Tools (you may need to press ALT to view the menu bar), click Internet Options, click the Advanced tab, and then click Reset at the bottom



of the dialog box. When Internet Explorer has been restored, click Close, click OK, and then click OK again to exit the dialog box. The change will take effect when you restart Internet Explorer. Restart Internet Explorer, click Tools, click Internet Options, click the Programs tab, and make sure

Outlook is set as the browser’s default Email service application. Making Internet Explorer your default browser (if it is not already) could also resolve the problem. Click the checkbox beside Tell Me If Internet Explorer Is Not The Default Web Browser, click Apply, and then click OK to exit the dialog box. If you see a message indicating that Internet Explorer is not your default Web Browser, click Yes to change that. If this doesn’t solve the problem, you may need to adjust a Registry key. For detailed instructions about backing up the Registry and importing the new registry key, see support .microsoft .com/kb/310049. **|**

Error: Microsoft.net Framework 1.1 Service Pack 1. Some updates could not be installed.

Translation: There’s an error with in your system that is prohibiting an update from installing.

Solution: Check to see that you’re running version 3.1.4000.4039 or later of Windows Installer. To do this, click Start and then Run. Type %systemroot%\system32 into the Run box. Opt to show hidden files if

necessary. Select the msf.dll file and then right-click and choose Properties. On the Version tab, it will tell you which version of Windows Installer you have. If you have an older version, navigate to support.microsoft.com/kb/927891 to get the more recent version.

Next, download, install, and run the Uninstall Cleanup Tool for the .NET Framework 1.0 and .NET Framework 1.1 from tinyurl.com

/2p3qx5. After this has completed, reinstall the .NET Framework 1.1 Service Pack 1 from tinyurl.com /54nxdk.

Next, restart Windows. Automatic Updates should now be able to download any missing updates. If Automatic Updates does not attempt to redownload the updates or if you do not have updates set to download automatically, install the desired updates manually. **|**

Have questions about an error message you’ve seen? Send us your message (errormessages@smartcomputing.com), and we’ll try to decipher it. Tell us what version of Windows you’re using, give the full text of the error message, and provide as many details in your explanation as possible. Volume prohibits individual replies.

FAST FIXES

Security Update For Windows Vista

Problem: Microsoft has identified a security issue that could allow an unauthenticated remote attacker to compromise and gain control of your system.

Solution: To ensure that your system is protected, download the following update for Windows Vista. Go to www.microsoft.com/downloads and type **KB950582** into the Search field and click Go. On the Results page, click the Security Update For Windows Vista KB950582 link. Review the description and overview on the download page, and then click Download at the top of the blue Quick Details box. Save the file to your hard drive; once the file is downloaded, locate it and double-click it to begin the installation. Follow the directions to complete the installation and then restart your computer.

www.microsoft.com

CyberLink PowerDVD Update

Problem: PowerDVD does not offer sufficient BD (Blu-ray Disc) playback performance on AMD systems.

Solution: PowerDVD's update improves BD playback on AMD systems and updates BD compatibility issues. To download the PowerDVD update, go to www.cyberlink.com and click the Downloads tab at the top of the page. From the list of CyberLink products, choose the Updates link for PowerDVD 8. On the resulting list, find PowerDVD 8 Ultra Updates and choose the corresponding Click Here link. On the Downloads page, click the red Download button and save the file to your hard drive. Once the download is complete, locate the file and double-click it to begin the installation. Follow the on-screen directions to complete the installation, and then restart your computer.

www.cyberlink.com

Security Update For Microsoft Works 8

Problem: Microsoft has found that a security vulnerability in Microsoft Works 8 could permit arbitrary code to run when a maliciously modified file is opened.

Solution: To resolve this security vulnerability, download an update available at www.microsoft.com/downloads. On the Microsoft site, type **KB955428** into the Download Center search field and click Go. When the results page appears, choose Update For Microsoft Works 8 (KB955428) from the list. The next page gives you an overview of the download's purpose and also lists system requirements which you should look over. When you're ready to download the update, scroll down to the section titled Files In This Download. There are over 30 to choose from; select the download that corresponds to your country of residence (so if you live in the United States, choose the KB955428_en US.cab download) and click the Download button to the right. Save the file to your hard drive. Once the file is downloaded, double-click it to begin installation. After you've completed the installation, restart your computer.

www.microsoft.com

Update For Windows Vista

Problem: Microsoft has found that Windows Vista suffers from performance and reliability issues.

Solution: To protect and enhance your Vista machine, download an update. Go to www.microsoft.com/downloads and type **KB955302** into the Download Center Search field. From the results list, choose Update For Windows Vista (KB955302). Once you review the download details, click the Continue button in the yellow box to validate your copy of Windows. You may be prompted to install the Windows Genuine Advantage Plug-in, which will enable you to validate your

copy of Windows. If prompted, click Install Plug-In at the top of the page, save the file, and run its installation. Once completed, click Continue at the bottom of the page. You will be taken to the Update download page. Choose Download and save the file to your hard drive. When the download is complete, double-click it to start the installation. Follow the on-screen directions and then restart your computer.

www.microsoft.com

FIX OF THE MONTH

Nero 8 Update

Problem: Nero contains bugs that need correction. On some systems, Nero SmartStart crashes when erasing a disc; Nero Burning ROM can't encode AC-3 audio files into another output format; Nero Vision often crashes when exporting a video file to a camera; and Nero PhotoSnap Viewer can't open pictures on some systems.

Solution: To download the newest update for Nero, go to www.nero.com. At the top of the page, hover your cursor over Support and, from the drop-down menu, choose Downloads. On the Downloads page, choose Nero 8 under Software Updates. Alternatively, you can type **Nero 8 Update** in the Search field, press ENTER, and choose Nero - Nero 8 - Update on the page of results. On the download page, review the download info (system requirements and additional information) and then click Download. Save the file to your hard drive. When the download is complete, double-click the file to begin the installation. Follow the directions to install the update. Restart your computer when finished.

www.nero.com

Q & A

Need help with your hardware or software? Looking for simple explanations on technical subjects? Send us your questions!

Get straight answers to your technical questions from *Smart Computing*. Send your questions, along with a phone and/or fax number, so we can call you if necessary, to: *Smart Computing* Q&A, P.O. Box 85380, Lincoln, NE 68501, or email us at q&a@smartcomputing.com. Please include all version numbers for the software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)



Q Outlook Express 6 occasionally compacts my old messages without first asking permission. Is there a way to disable this feature?

A Although compacting your Outlook Express folders can be a lengthy and tedious process, we don't recommend disabling the compaction feature. Disabling compaction can lead to file and folder corruption. Outlook Express will usually prompt you about compacting your folders, but after you've launched Outlook Express 100 times, you'll no longer be prompted. It's important not to interrupt the compaction process. This can lead to corrupt mail folders, and put your emails at risk.

You can reset the Registry key that keeps track of how many times Outlook Express has been launched. You'll still receive the pop-up window requesting you to compact your files, and when you've launched Outlook Express an additional 100 times, the process will become automatic again.

It's important to understand that editing the Registry is not for the faint of heart. You can easily render your computer unusable if you make an error. Before editing the Registry, be sure to make a backup copy of it.

To back up and then edit your Registry, shut down Outlook Express. Next click Start, click Run, and enter **regedit** in the Open window and click OK. This will launch the Registry Editor. In the left pane, you'll see My Computer with a series of folder icons. To back up the Registry, click My Computer and then click File and Export. Name the file, choose where to save it, and click Save.

To edit the registry after you've backed it up, expand HKEY_CURRENT_USER, and navigate until you're at HKEY_CURRENT_USER\IDENTITIES\{GUID}. GUID will be a long string of characters unique to your installation of Windows. Expand this further until you arrive at HKEY_CURRENT_USER\IDENTITIES\{GUID}\SOFTWARE\MICROSOFT\OUTLOOK EXPRESS\5.0. Although the folder says 5.0, that's just because Microsoft hasn't updated it for Outlook Express 6.0.

After clicking 5.0, look in the right pane for a key named Compact Check Count. Double-click this key to edit its value. In the Value Data field, enter **0** and then click OK. Now when you relaunch Outlook Express, it will prompt you before compressing your folders.



Q I have several PCs connected to a wired router for shared Internet access. The IP (Internet Protocol) address of each PC is assigned by the router via its DHCP (Dynamic Host Configuration Protocol) function. Because the router's IP address is the only one "visible" to the outside world, why do you recommend that each PC also use a firewall?

A Computer security is best when it works like an onion; layers of security provide

multiple types of protection. Antivirus software protects against one type of threat, spyware tools against another, and firewalls play an important role in protecting against a multitude of threats.

Imagine that you rely solely upon your router's firewall for protection. On one of your computers (we'll call it Computer A), you surf to a Web site that takes advantage of a vulnerability in Internet Explorer; this vulnerability leads to a malicious program being installed on Computer A. Many of

these programs turn your computer into a “zombie” capable of being remotely controlled. Now that the miscreant has access to Computer A, it’s trivial for him to gain control of all of your computers behind your router. In fact, studies have shown that an unprotected computer connected to the Internet are usually attacked and compromised within minutes.

By enabling firewalls on all of your computers, you’re adding an additional layer of defense. While you might still be vulnerable to the Internet Explorer exploit, the firewall on your computer might be able to detect someone controlling your computer remotely. Even if the exploit is smart enough to disable your computer’s firewall, you’ve still limited the amount of damage that can occur.

In our scenario, Computer A will still be a zombie, but the firewall software on the other computers will alert you when an

attempt to attack is made. Without firewall software to protect and alert you, the initial attack might go unnoticed for quite some time, compromising personal data and eventually leading to identity theft or worse. In addition, your router uses a different type of firewall than does Windows. This diversity is an invaluable asset in protecting your computers because it means that an attacker has to overcome multiple layers of security to get to your computer.

There’s certainly no magic elixir for security. It depends on keeping your systems up-to-date with the latest versions of your applications, using Windows Update to keep Windows XP patched, and being cautious about how you use your computer on the Internet. Security often conflicts with convenience, but taking advantage of as many security tools as possible will bring you peace of mind. It’s well worth the inconvenience in the end.



Online

Q Are there any companies that can help to remove my email address from circulation? I’m tired of receiving so much junk mail.

A There are numerous companies that claim to help keep your email address from being used by marketers, but they usually won’t be very effective due to the way spam marketers go about obtaining email addresses. Spam marketers get email addresses through numerous means. Some prowl the Internet looking for any email address in a Web page or forum. Others try to guess email addresses. As you might imagine, a live email address is very valuable to a spammer.

Unfortunately, once an email address is known to be live there’s not much of a chance that a spammer will stop sending email to it. And spammers trade address lists amongst themselves, so it’s quite difficult to stay off of the spammer’s radar.

So how can you minimize the amount of spam you receive? Our recommendation is a twofold approach. First, we recommend

opening a new email account. (Google’s free Gmail service, for example, is a great choice.) This will give you a new email address that will be “clean” for a while. Gmail has an excellent spam filtering system that should catch the majority of spam you do receive. This first account will be for personal use, and should not be used for anything else. Next, create a second Gmail account. This account will be used for online registrations and any other situation where you’re required to provide an email address to an untrusted party. By using this second account, you’ll segregate your email usage and hopefully keep your private email address from becoming targeted. If any spam is sent your way, Gmail should intercept it and put it in a spam folder.

Finally, be extremely parsimonious with both of your email addresses. Unless you’re required to give out an email address, don’t. In many cases you can simply provide a fake email address when you think it won’t have any adverse impact. Taking back control of your email isn’t easy, but you don’t have to be a victim of spam.

Frequently Asked Questions

Answers To Users' Most Common Questions About **PC Performance**

If you'd like to gauge your Windows Vista machine without the trouble of buying and installing a new benchmark utility, check the Windows Experience Index on your own system.

FAQ Is there a way to tell how my PC is performing compared to other PCs?

A direct PC-to-PC comparison has always been difficult because of the many variations in components, operating system versions, and device drivers among different systems. One way to gauge performance is through the use of benchmarks designed to test a computer's major subsystems and report a score, which you can then compare to the same benchmark run on other systems. There are many benchmark programs available, including PerformanceTest 6.1 from PassMark Software (www.passmark.com), as well as the venerable 3DMark and PCMark utilities from Futuremark (www.futuremark.com).

If you'd like to gauge your Windows Vista machine without the trouble of buying and installing a new benchmark utility, check the Windows Experience Index on your own system. Click Start, Control Panel, System And Maintenance, and then click Check Your Computer's Windows Experience Index Base Score under the System heading. The PC will then display a subscore from 1.0 to 5.9 in each main functional area of the system, along with a total score. You can then compare these figures to those provided by other Vista systems. This figure also helps you select software and other products that are most appropriate for your system.

FAQ Is there a way to improve the responsiveness of the Vista Desktop?

The fancy fades, slides, and other visual effects of Vista can annoy some users and might even bog down slower systems. To adjust Vista's visual effects, click Start, Control Panel, System And Maintenance, and Performance Information And Tools. Select Adjust Visual Effects under Tasks on the left. In the Performance Options dialog box, select the Adjust For Best Performance radio button. Click Apply and OK to save your changes. The Vista Desktop should

now be far more responsive. If you'd rather let Vista optimize the Desktop performance, select the Let Windows Choose What's Best For My Computer radio button. You can always go back and re-enable desired visual features later.

FAQ How can I get my hard drive to run better?

There are a few things that you can do to improve the apparent performance of your hard drive. First, make it a point to routinely empty the drive of cache files, cookies, and other temporary content that the system might otherwise spend time searching. You can typically empty temporary content through your browser. In Internet Explorer 7, for example, select Tools and Internet Options. On the General tab, click the Delete button under Browsing History; delete the unwanted temporary items individually or simply click Delete All. Similarly, you can click Start, All Programs, Accessories, System Tools, and Disk Cleanup. Select a drive and the files you wish to clean up.

File fragmentation can also impair hard drive performance, forcing the drive to jump around in order to locate all of the pieces of a file. You can defragment a hard drive in Vista by clicking Start, All Programs, Accessories, System Tools, and Disk Defragmenter. You can schedule routine defragmentation or click the Defragment Now button to start the process right away. This reorganizes all of the files on the hard drive so that their clusters are all together.

Another solution may be to replace your current hard drive with a faster model. For example, if you currently have a 5,400rpm SATA (Serial Advanced Technology Attachment) drive installed, replacing it with a 7,200rpm SATA II drive should improve performance. Just remember that the computer's hard drive interface must support the faster hard drive. ■

Are you having trouble finding a product or getting adequate service from a manufacturer? If so, we want to help solve your problem. Send us a description of the product you're seeking or the problem you're having with customer service. In billing disputes, include relevant information (such as account numbers or screen names for online services) and photocopies of checks. Include your phone number in case we need to contact you.

Letters may be edited for length and clarity; volume prohibits individual replies.



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A Missing Tape & A Mistaken Monitor

In your July 2008 issue, you recommended AMB Media Services for transferring tape to DVD. Based on your recommendation, I sent a VHS tape in for transfer on June 16. AMB said it got the tape on June 19. About 10 days ago, I emailed to check on it. The rep asked for more info, which I provided, but I haven't heard from the company. A third email went unanswered. My check cleared June 23—more than a month ago! This was only supposed to take seven to 10 days.

Bruce
Sacramento, Calif.
.....

Because this is a company we've mentioned in an article, we contacted AMB Media Services on Aug. 6. We received an email reply on Aug. 7 from the director of marketing at AMB Media Services. He informed us that he would check with the company's technicians regarding the order's shipping status. He said he would contact the customer directly. We sent a follow-up email to the rep on Aug. 12, and he replied the next day stating that the order was shipped two days before and an email update was sent to Bruce. Unfortunately, Bruce informed us that he received the wrong tape. We contacted AMB, who replied to let us know that it sent the correct tape, transfer DVD, and refund to Bruce. We checked with Bruce to verify this shipment, and he stated that he received the original tape; however, it was missing the hinged cover. Furthermore, he received one DVD-R when he initially asked for two DVD-R copies and one DataDVD (a movie file on DVD that can be edited). He was told he would not be billed but was charged for one DVD-R including shipping. Bruce stated he was glad that he was finished with AMB and that his VHS tape was returned. Our own experiences with AMB have been positive, so we hope that Bruce's experience was an isolated incident.

As a long time subscriber of Smart Computing, I am asking for help with the following problem. On Feb. 7, 2006, I purchased a ViewSonic Pro Series VP930b 19-inch LCD monitor from Newegg. The unit worked great until about June 1, 2008. Then it failed. A computer tech advised me to try one of my other monitors. I did and it worked OK. The ViewSonic that failed was still under warranty; I was told to ship it to ViewSonic. I did this on June 4, 2008. The company gave me a case number. I tracked the shipment; it was received.

On July 21, I contacted ViewSonic and questioned the company on the progress of the monitor. I was told that ViewSonic located the monitor and would email me about the progress. I never got an email. The next week, I contacted the company again and was told it was going to send me a new item. On July 28, I contacted ViewSonic for the third time, and the representative told me that I should hear about the progress in two days. He gave me the RMA (Repair Merchandise Authorization) number; again no email or further response.

George W. Lizenby
Cadillac, Mich.
.....

We contacted George for the first time on Aug. 12. He replied with a phone call explaining in detail that ViewSonic told him that he would receive a replacement monitor one week from Aug. 8. We got in touch with our ViewSonic contact, and he apologized that the return shipment sat for weeks due to a delayed RMA. ViewSonic shipped George a monitor; however, he received a CRT instead of an LCD. He returned this monitor to ViewSonic on Aug. 22, but when George contacted ViewSonic again, it informed him that no action was being taken to replace the monitor he sent in on June 4. We forwarded this update from George to ViewSonic. ViewSonic replied on Sept. 3, assuring us that ViewSonic shipped George a replacement VP930b LCD. One day later, George emailed us stating that the correct monitor had arrived. ■

Checking In

I learned the importance of spelling in Ms. Reynolds' AP English class. She had a great scheme: Any (and each) misspelling or grammatical error automatically knocked 10 points off our 50-point and 100-point essays. That's real-world relevance. You'd think making the grade would get easier, with spell checkers all over the place, but somehow they never seem to work when or how you need them to. Though I acknowledge how difficult it must be to keep me from looking stupid, I found a few ways to bend these tools to my will.

Most of you are familiar with the spell checkers that come embedded in word processing programs. I'm a Word guy these days, but I've used Works, OpenOffice.org Writer, and even Atariwriter back in high school. The modern editions all have spell checkers, but none works exactly the way I want out of the box. For instance, they always get hung up on acronyms (USB, MLB) and number-letter combinations (802.11b or Y2K). I know it's easy to ignore individual results or add common acronyms to your custom dictionary, but more than a couple in the same document become a real burden. Thankfully, you can control some of the spell checker's settings to streamline the process. In Word 2003, select Options from the Tools menu. The Spelling & Grammar tab offers basic preferences (including the option to ignore words in uppercase, words with numbers, or Web addresses). You can also create, manage, or load custom dictionaries to let predefined words through the filter. The Settings button in the Grammar section offers even more flexibility. Spelling words correctly is fine, but you'll need to check grammar and style, as well, if you want to catch incomplete sentences or if the dreaded passive voice is to be avoided.

I have less history with email spell checkers, though I've been using Outlook's religiously for a while. Spell checking emails may seem unnecessary if you're corresponding with friends or are a fan of chat acronyms. But you can bet, BTW, that your boss won't be ROFL about goofy spelling in messages to co-workers or clients. As easy as it is for Outlook to check every message as it goes out, there's really no excuse not to do it. Once again, choose Tools and Options. Click the Spelling tab and select Always Check Spelling Before Sending. Outlook will also ignore uppercase or alphanumeric words if

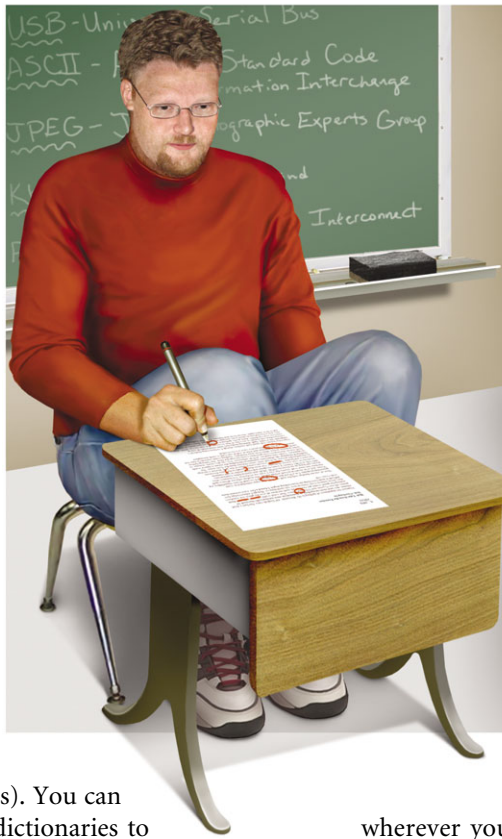
you want. Admittedly, it's a pain to deal with spell check every time you send a message. Ease the pain with keyboard shortcuts. ALT-C changes a word to Outlook's suggested spelling. ENTER (or ALT-I) is a shortcut to ignore Outlook's suggestion. The ESC key bails you out of the spell checker when you just don't care or when the message has too much jargon to be worth checking.

Autocorrect is my least favorite spell check "feature." Your experience may be different, but for every time Word changes my "wroking" to "working" I've spent twice as long convincing it that I really do want "xPressions" instead of "expressions" and "eBay" instead of "Ebay." Word and Outlook both tend to outsmart themselves, and if you aren't paying attention, you'll be caught looking dumb. Word provides tons of control. Under Tools, select AutoCorrect Options and browse the settings under the AutoCorrect, AutoFormat, and AutoText tabs. You can add or remove common words and their replacements or set exceptions. In Outlook, select Options from the Tools menu and then click the Spelling tab. You'll find many of the same options available for customizing AutoCorrect in your email.

Spell checkers for browsers and Web applications are a whole different breed. They're usually either scripted tools coded within a Web page or small add-on utilities that ride along with your browser wherever you go. You have little control over the first variety, but it never hurts to use the tools available whenever you're posting to a discussion board, submitting a form, or adding annotation online. If you want to carry your own online spell checker, check out ieSpell (www.iespell.com). It's free and works on Web form elements of all sorts. It's the one I know, though I'm always open to new ideas. Let me know about your favorite browser spell checker, and I'll pass the word on. ■

BY GREGORY ANDERSON

Gregory Anderson is a regular contributor to Smart Computing and several other technology publications. He keeps a sharp eye (with the help of thick glasses) on computing trends and enjoys working with geeks of all stripes—most of the time. Spell out your spell checking woes at gregory-anderson@smartcomputing.com.



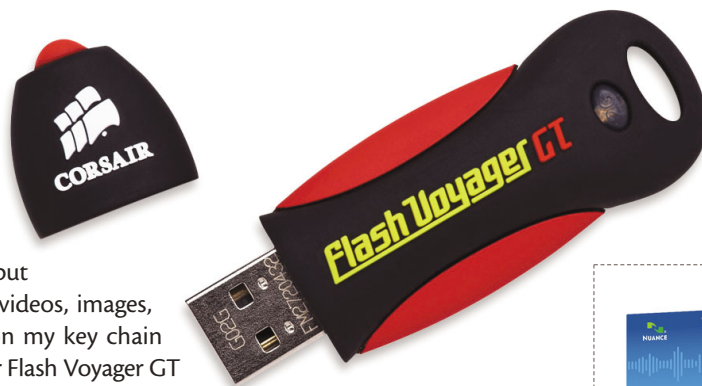
Flash Voyager GT

\$80 | Corsair | www.corsair.com

The first hard drive I ever purchased had a massive (at the time) 16GB storage capacity. I used to wonder if I'd ever need that much hard drive space, but now that I regularly transport music, videos, images, and documents, a 16GB flash drive on my key chain seems like a necessity. The 16GB Corsair Flash Voyager GT gave me the portable storage space I need, and this water-resistant and drop-tested flash drive showed it was durable enough to endure travel.

The Flash Voyager GT, which features an all-rubber housing, survived a three-story drop and a quick dunk in water without a problem. Corsair also boasts that the Flash Voyager GT transfers data up to three times faster than typical USB drives. In my movie transfer tests, the Flash Voyager GT copied data between two to three times faster than my test flash drives. ■

by Nathan Lake



LG GBW-H20L

299.95 | LG | us.lge.com

This speedy burner does everything but read HD (high-definition) DVD. It's a SATA (Serial Advanced Technology Attachment) model that features 16X DVD burning and 6X BD (Blu-ray Disc) writing, assuming you can find blank BD-R discs that support this speed. We couldn't, but a 2X burn of 4GB of data to a Memorex BD-R took 1:35:37 (hour:minutes:seconds) at about 0.7MBps (megabytes per second).

The drive comes with a one-year warranty, as well as a CyberLink software bundle with basic editions of PowerDVD (for BD/DVD movie playback), PowerProducer (for BD/DVD authoring), LightScribe disc labeling, backup, and more. ■

by Marty Sems



Dare

\$409.99 | LG & Verizon Wireless | www.lge.com

LG's Dare VX9700 has a number of similarities to Apple's iPhone, including a large touchscreen display, accelerometer that automatically rotates the display when you hold the phone on its side, proximity sensor that turns off the LCD to save battery life, and countless multimedia features. What's more, the Dare has some features not found on the iPhone, including a 3.2MP (megapixel) camera and camcorder with a Schneider-Kreuznach certified lens. I liked the extra features that accompany the camera, especially the editing features and the Drawing Pad. With the Drawing Pad, you can doodle on a picture or blank document using your finger as a pen. The Dare also has handwriting recognition: You can write letters with your fingernail and the Dare will translate them into text. ■



by Jennifer Johnson



Dragon NaturallySpeaking 10 Preferred

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www.nuance.com

Dragon NaturallySpeaking has been the leader in voice recognition software for some time. Now, thanks to version 10, the accuracy and speed you have enjoyed with previous versions is even better. Not only is NaturallySpeaking 10 more accurate (Nuance claims up to 99% accuracy), but I also like some of the handy new features, such as Quick Voice Formatting. This feature lets me format and delete text faster than I could before, all while using voice commands. As always, Nuance is offering various versions of NaturallySpeaking 10, including a new Wireless edition. With NaturallySpeaking 10 Preferred Wireless, you can work wirelessly, using an included Plantronics Calisto headset and Bluetooth USB adapter kit. ■

by Jennifer Johnson



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